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ABSTRACT

The first part of this report characterizes the many facets of the population problem (including biological, economic, and social aspects), suggests a list of areas in which the Federal Government should emphasize research (reproductive biology; fertility regulation techniques and materials; description, determinants, consequences of population size, distribution, characteristics, and trends; and research on effective implementation of population programs), outlines the interests of Federal agencies in these areas, recommends that a standing committee on population research be established and that each Federal agency consider the listed needs for research when planning its program. The second part of the report classifies ongoing research supported by Federal agencies into the areas described in part one. The subcategories in each area are listed in an appendix. An investigator index and two appendices, presenting material sent to each agency for collecting the survey data and one summarizing the findings, are included. (AL)

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THE FEDERAL PROGRAM IN POPULATION RESEARCH

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Report to the

FEDERAL COUNCIL FOR SCIENCE AND TECHNOLOGY

prepared by

AD HOC GROUP ON POPULATION RESEARCH

Parts I and II

July 1,1969

Executive Office of the President
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PART ONE

I. Introduction: The Population Problem

The world took more than 18 centuries to increase its population from a quarter of a billion persons to one billion persons. Now, one billion persons are being added every 15 years, and the rate of world population growth is about 30 times as great as the average growth rate from the beginning of the Christian era to 1650. In the developing countries, the growth rate is even higher as the result of advances in their control of mortality without corresponding reductions in their high birth rates. The advanced countries are also growing, although at a rate less rapid than before they achieved modern levels of fertility.

Rapid population growth poses a profound threat to the prospects for economic development in the developing countries, and therefore also to such related goals as social welfare and political stability. This is true of many countries which have not yet reached high population densities, as well as many that have . In much of the world, population growth is such that heroic efforts are required simply in order to avoid retrogression in levels of income, literacy, and well-being. Yet no one would be satisfied with mere maintenance of current levels. Contemporary fashions of nomenclature tend to obscure the fact that the "developing" countries are developing far more slowly as a group than the "developed" countries. In the society of nations, the gulf between affluence and poverty is widening. A world in which one-third of mankind gets too much to eat while two-thirds are starving is a threat for everyone.

With the world as a whole on a demographic binge, the United States is on a demographic roller coaster with an upward tilt. Last year, the United States experienced its lowest rate of population growth in nearly 30 years, thanks to an all-time low birth rate. Only a dozen years ago, the U.S. birth rate was at a high level exceeded only once in the past 45 years. Current statistics suggest that the American birth rate may be approaching the end of its recent decline, and reaching the turning point that is anticipated as the children of the Post-World-War-II baby boom move into the childbearing ages and have families of their own.

The volatility of American population growth imposes major strains on economic and social institutions. For example, between 1960 and 1968 the colleges in this country had to absorb a 91-percent increase in enrollment with about 40 percent of this increase caused by the increase in the absolute numbers of college age youth produced by the earlier baby boom. The labor market, starved for years by the paucity of Depression babies, is now faced with the task of providing employment for a flood of job-seeking youth. It should be readily apparent that trends in the growth, distribution, and characteristics of the American population are implicated in nearly every major area of domestic concern from urban congestion, racial unrest, unemployment, poverty, and malnutrition, to the disappearance of open spaces, depletion of natural resources, environmental pollution, and the redistricting of governmental bodies.

Despite low and stable mortality and immigration rates our domestic population growth continues, albeit at variable rates, because American families continue to desire children in numbers which, although not large in world terms, are considerably in excess of what is required for population replacement. The Federal commitment for providing family planning servies without coercion to the poor was announced in the 1966 Presidential health message since which time a beginning has been made toward meeting the needs of an estimated five million poor families who have more children than they want and who wish to control their fertility. However, most of the people in this country are not poor and the fertility of the nonpoor majority is what governs the overall population growth rates. The United States will be ill-equipped to address itself to the problems posed by domestic population growth until it improves its understanding of family growth among the great majority of Americans who have in fact, used some means of family limitation with varying degrees of success.

Many American couples, both poor and middle class, have more children than they want or fail to delay conception for as long a period as desired. Their problems are of special poignancy and concern to those who embrace the American ethic of free individual choice and equal opportunity. In addition, we are only beginning to face the dilemmas which may result from wide differences between the realization of individual goals as to family size and the requirements of an entire society.

Although the birth rate is the main dynamic factor affecting the size of the U.S. population, migration within the country is mainly responsible for the changing concentration of population in geographic areas. In the concern about population growth rates and family planning activities, it is easy to underestimate the degree to which the nation's population problems result from imbalances in the distribution of population in relation to the distribution of jobs, housing, transportation, public facilities, and the like. However, surprisingly little is understood about our internal migration, the conditions which give rise to it and the problems posed for the sending as well as the receiving communities.

The dimensions of population research are of necessity as extensive as the various issues involved. The fertility of individuals and the population processes of nations are sensitive and highly complex topics which touch diverse controversies related to basic issues of political power and decision-making, sexual behavior, medical safety of contraceptive devices, competition for scarce resources among alternative service programs, and choices among competing and sometimes incompatible societal goals.

"The Population Problem"turns out, upon examination, to be many problems. What must be recognized is that population size, distribution, and characteristics, are fundamental aspects of any society or social group, which must be reckoned with in the formulation and execution of collective human endeavors. Man is an organism set in an environment, much of it "natural", much of it social and institutional, much of it of his own making. He relates to his environment largely by the way in which he deliberately or unwittingly alters the size, distribution, and composition of his numbers. The processes, determinants, and consequences of these adjustments are the subject of population research.

Federal Population Research

In response to growing Federal concern with population matters, the Federal Council for Science and Technology (FCST) established an Ad Hoc Group on Population Research in October 1968 with membership consisting of one representative from each Federal agency having an interest in population research.

The initial task of the Ad Hoc Group was developing an operational definition of population research, which was subsequently modified as it appears on pages 40 and 41. . The members also served as the representatives of their respective agencies in planning and conducting an inventory of ongoing population research in the Federal Government.

The Federal agencies submitted a total of 693 projects of which 411 are included in the citation list which comprises Part II of the report; 282 projects were reviewed and excluded because they did not seem sufficiently germane to population research.

The table on the following pages presents the number and type of projects included in the citation list with funding information and agency sponsorship. The figures in the table do not include a considerable number of projects funded prior to July 1, 1969 but after the April 30, 1969 cutoff date for the inventory. In addition, funding information was not readily available for approximately ten percent of the projects which were reported.

Ongoing Population Research Supported by Federal Agencies, by Subject Area

April 30, 1969

(Thousands of dollars)

Subject area	Total, all agencies		
	Number of research projects	Number of projects with funds	Funds
GRAND TOTAL	411	376	$55,102
REPRODUCTIVE BIOLOGY	192	176	8,014
Multipurpose research	13	11	3,332
Endocrine factors, total	77	68	2,270
Neuroendocrine factors	15	13	352
Gonadotropic hormones	28	24	791
Gonadal hormones	29	27	1,078
Other factors	5	4	49
Prefertilization, total	61	57	1,360
Ovogenesis, gametogenesis and ovulation	19	18	378
Spermatogenesis and sperm transport	23	20	489
Oviductal, uterine and cervical functions	19	19	493
Fertilization	25	25	714
Nidation and implantation	10	10	219
Other	6	5	119
FERTILITY REGULATION, TECHNIQUES AND MATERIALS	57	53	4,664
Development of techniques and materials	8	8	330
Evaluation of techniques and materials	34	31	3,392
Infertility	15	14	942
DESCRIPTION OF POPULATION SIZE, DISTRIBUTION, CHARACTERISTICS AND TRENDS	36	34	32,984
Data generation and analysis	30	29	32,637
Methods of measurement and analysis	6	5	347

Ongoing Population Research Supported by Federal Agencies, by Subject Area (continued)

April 30, 1969

(Thousands of dollars)

Subject area	Total, all agencies		
	Number of research projects	Number of projects with funds	Funds
DETERMINANTS OF POPULATION SIZE, DISTRIBUTION, CHARACTERISTICS AND TRENDS	64	54	2,384
Family size, composition and roles	13	8	149
Knowledge, attitudes and practices with regard to fertility	7	7	409
Biomedical and health	4	3	64
Socio-economic	16	13	844
Migration and urbanization	23	22	775
Environmental	—	—	—
Population policy and implementation	1	1	143
CONSEQUENCES OF POPULATION SIZE, DISTRIBUTION, CHARACTERISTICS AND TRENDS	27	25	1,216
Family size, composition and roles	—	—	—
Attitudes and practices with regard to fertility	2	1	4
Biomedical and health	10	9	798
Socio-economic	7	7	284
Migration and urbanization	6	6	99
Environmental	1	1	21
Population policy and implementation	1	1	10

Ongoing Population Research Supported by Federal Agencies, by Subject Area (continued)

April 30, 1969

(Thousands of dollars)

Subject area	Total, all agencies		
	Number of research projects	Number of projects with funds	Funds
RESEARCH ON OPERATIONAL ASPECTS OF POPULATION PROGRAMS	28	27	3,251
Organization and administration of family planning programs [a]	16	15	1,755
Manpower resources and training	4	4	160
Facilities	1	1	61
Evaluation of impact of population and family planning programs	7	7	1,275
INSTITUTIONAL PROGRAMS	7	7	2,589
GRAND TOTAL	411	376	$55,102

[a] Includes research on delivery of services, sex education, counseling, etc.

II. Some Suggestions for Federal Emphasis in Population Research

In planning the inventory of ongoing Federal research in the population field, we developed a classification system which we hoped would be useful to action-oriented programs as well as to scientists interested in research design. The major subject headings we selected, while useful for many purposes, were not always mutually exclusive. For example, the distinction between reproductive biology versus techniques and materials for fertility regulation tends to blur in practice. As regards human fertility, research efforts cover a very broad spectrum including fundamental research in selected aspects of reproductive biology, development of new methods of controlling fertility, laboratory and clinical testing of such methods, and the long-term evaluation of the efficacy of contraceptive techniques.

Without attempting to present a definitive list of research topics, we consider the following areas within population research illustrative of those deserving emphasis by the Federal Government.

a. Reproductive Biology

Greater support and encouragement are needed for interdisciplinary approaches to the study of reproductive processes. Attention should be paid to developing and testing unifying hypotheses and theories regarding biological processes involved in reproduction, rather than to random collections of observations and data.

One of the areas in need of exploration is the male-female interaction, in both its sociopsychological and biological aspects. Inadequate attention also is being given to the interrelationships of the various elements of male and female contributions to successful reproduction.

There are a number of more specific areas which are in need of greater exploration. For example, the entire period of implantation and nidation, the neurophysiological and neurochemical control of the genital tract; and the use of pharmacological methods of studying the control of the musculature, blood supply and secretions of the genital tracts.

There is inadequate research in basic biological processes concerned with reproduction. An especially critical area is the basic biological research required for the development of biological means for fertility depression -- not complete supression -- without reducing the sex drive.

The precise means by which the sex hormones act upon target tissues, or upon cellular components, is a vast subject for investigation. There is real need for being able to detect and measure minute quantities of these hormones isolated from blood, body fluids or tissues, and extremely sophisticated methodology and instrumentation must be developed for this purpose.

More specifically, research is needed on:

The maturation and fertilizing capacity of spermatozoa including such aspects as sperm maturation, the functions of the male duct system and accessory glands, sperm arrival and survival time in the Fallopian tube, and capacitation;

The oviduct and gamete transport including effects of hormones on the oviduct, structure and function of oviductal cells, composition and function of oviductal fluids, oviductal muscular activity, and differential transport of gametes;

The corpus luteum function including role of progesterone and other gonadal hormones in the initiation and maintenance of early pregnancy, external and internal control of the corpus luteum, quantitative descriptions of the menstrual cycle, and target effects of corpus luteum products;

The biology of the pre-implantation ovum including egg formation and ovulation,egg membranes, egg metabolism, and decidualization and implantation.

Finally, reproduction must be viewed in the full ecological sense. The assessment of reproductive capacity involves more than the biological or physiological performance; it involves demographic, social and cultural aspects. One should expand and develop each one of these elements to appreciate the full complexity of achieving fertility and its control.

b. Fertility Regulation, Techniques and Materials

Effective population control and family planning programs are dependent upon means of regulating the number of live births among any given population group. While abortion has been widely used in the United States and elsewhere to limit live births by terminating pregnancy, attempts to prevent conception from occurring employ a variety of temporary and permanent measures to avoid ovulation, fertilization, or implantation.

An ideal contraceptive would be effective, safe, inexpensive, reversible, and acceptable to the diverse needs of all the world's various population groups. The restrictions imposed by the educational, motivational, religious, moral, economic, and cultural characteristics of these population groups are sufficient in themselves to preclude the development of such an ideal contraceptive. Add to these, the requirements for safety, effectiveness, reversibility and cost, and it is clear that no single method is likly to fulfill all above criteria. For this reason, one major goal of population research must be the development of an array of contraceptive methods designed to meet the specific needs of the various population groups.

c. Descriptions of Population Size, Distribution, Characteristics and Trends

Despite a large volume of data about population change in the United States, at no point are the concerns of this field represented in a continuing data collection mechanism that has the measurement of family growth as its principal function. There is need for a continuing survey of family growth in the United States in order to determine trends in childbearing patterns and factors affecting the American birth rate. Such a survey would provide needed information on fertility impairments, family size goals, and family planning practices, and their relation to marriage, actual number of births, and selected family characteristics.

The dependence of births on rates of family formation and the stability of families is obvious. Yet, the United States does not have comprehensive national statistics on the incidence of family formation and dissolution. Elementary information on age at marriage or divorce, race, and number of previous marriages is available from the vital statistics only for certain States, and even in some of these States, the reporting of certain characteristics is very poor. The system for collecting marriage and divorce statistics must be completed.

With the population changing more rapidly than ever, and with demands for timely population statistics for local areas as well as the Nation at an all-time high, the Federal Government still allows ten years to elapse between population censuses, a pace established in the 18th Century. Since all population statistics have a common reference point in the census, the accuracy, thoroughness and timeliness of census data determine in a very real sense how intelligently we will be able to comprehend and deal with population problems in the United States.

Comprehensive and up-to-date statistics are needed on the condition of the disadvantaged, who are disproportionately represented among racial and ethnic minorities. Such statistics should be provided by regular household surveys designed for the purpose. Federal statistics on the social and economic conditions of the Negro population, including family size, educational attainment, economic conditions, etc. have recently been improved as to frequency and detail. Even for this group, the usefulness of the current annual data is impaired by the fact that survey samples are designed to represent the Nation, with the consequence that many of the data for Negroes lack sufficient reliability and geographical detail. For other significant minorities, including Mexican-Americans, the most recent statistics are from the 1960 Census.

The preparation of population estimates for many local areas is a haphazard, unstandardized activity, producing results of highly variable frequency, quality, and comparability from one area to another. Recently, a Federal-State cooperative program was established for the preparation of local population estimates by State agencies, using standard techniques. Provision for adequate technical support and guidance by Federal staff is required if the program is to achieve its goal of comprehensive locally-prepared estimates of high quality which can serve as the offical Federal estimates of local-area populations.

Achieving the best possible projections of future population size and composition, for the United States and for the local areas requires review and development of alternatives to the demographic methods now in use, especially for local areas, where the development of economic-base type projections would appear to be particularly appropriate. State and local development programs, economic trends, and other factors which might affect local population movement are not incorporated in the existing methods for preparing population projections. At the national level, the potential of various analytical models for the estimation of future births and the usefulness of birth expectations data from household surveys have yet to be fully assessed or their results used to supplement existing techniques for the projection of the population.

d. Determinants of Population Size, Distribution, Characteristics and Trends

Whether we wish to influence or simply to predict the future growth of population, its distribution or its characteristics, we need to know the determinants. Much has been learned about the processes of population growth, and the interrelationship between births, deaths, and migration in determining population structure and change; but a great deal less effort has been expended in the past to understand the other two demographic processes: births and migration. The greatest lacunae in information on births and migration relate to the causes which underlie changes in their rate and the interventions which may effectively influence their course.

Far more research is needed to explore the ways in which socioeconomic factors affect human behavior related to marriage, fertility, and migration, which together with mortality determine the structure and size of national or special populations. Quantities of census and vital statistics data exist that could be used in historical studies of particular areas, to delineate the demographic evolution of large cities, and to examine the processes of depopulation in many rural areas. It is equally important to study the social and personal implications of these processes as a basis for formulating policy with respect to them.

In a broad sense, we are searching for those conditions in the social and cultural context in which people live which bring about the control of fertility. What kinds of change are required in a society or in segments of society to bring about fertility limitation? In what institutions? Methods of fertility control that are acceptable are partly dependent on the culture, and much needs to be learned about the social processes and behaviors that lead to cultural change relevant to contraceptive practice.

Research is also needed on the cultural, economic, and personal determinants of migratory patterns, inasmuch as many of our more serious social problems are related to overcrowding in central cities, urban sprawl in the suburban areas, and inadequate transportation between home and work.

Many crucial questions relating to population growth at the present time focus on fertility and on the institution of the family within which childbearing and childrearing normally occur. Like other institutions in our society, the family, alone with the behaviors and values related to it, are undergoing change. Studies are needed of sexual behavior and the extent to which attitudes toward sexual behavior influence age at marriage, age at first conception, divorce and remarriage. Studies are also needed of the meaning of parental roles and the process by which children learn such roles, the sources of sex education, and how the norms with respect to ideal and desired family size are formed. More information is needed on the extent to which different forms of family organization, with consequent differing roles for family members, influence the number of children desired or considered ideal and the ability to achieve the desired number.

Information is also needed on changes taking place in age at marriage, the frequency of divorce, and the effect of these changes upon completed fertility.

Within the family context, a great deal remains to be learned about the decisions leading to variations in the number and spacing of births. Do couples typically begin marriage with a family size goal firmly in mind or are childbearing decisions made on a one-at-a-time basis? What factors influence these decisions? What goals do couples consider as alternatives to children (career, houses, automobiles, travel) and do these views differ in two, three, and four child families?

e. Consequences of Population Size, Distribution, Characteristics and Trends

It is difficult to determine what the most desirable growth rate for our country is now or will be in the future. We know that population growth cannot continue indefinitely and that the rate of growth must eventually reach zero. But we have no rational basis for deciding when we should try to attain a stationary, or perhaps, a declining population. Projections of the social, psychological, environmental and economic consequences of various growth rates are needed to guide our choice of population goals, both for the near and distant future.

Research is needed on the consequences of various childbearing patterns in order to provide couples with sound information on which to base their decisions as to the number and spacing of their children.

How does the growth and development of children in large families differ from that of children in small families? How do children who are closely spaced with respect to age differ from those who are farther apart?

We must understand better than we do the consequences of varying trends in fertility for society as a whole, as well as for the individuals comprising it. In the United States, for example, we seem to have established a wave pattern of fertility that brings about alternating peaks and troughs in the age distribution of the population. The economic and social costs of this pattern have never been counted, although many of them are obvious and important.

We also need to know more about the relationship between birth spacing and annual measures of fertility. We know the direction of many effects, but not their magnitude. Also, we do not comprehend fully the implications of current childspacing patterns for fertility rates in the near-term future.

We must also learn more than we now know about the consequences of migratory patterns. Migration is a major vehicle of social change. As such, it has some good and some harmful consequences, for social change seldom occurs smoothly. But we still do not know how best to balance the benefits and costs to conceptualize optimal patterns of internal migration.

Much demographic work has been concerned with total population size, structure, and growth rates and their effect on socioeconomic variables. More work needs to be addressed to the questions of population distribution, especially the urban-rural distribution. It is at the urban level that the constraining or even crippling effect of population may well first be felt rather than at the aggregate level.

Research on the consequences of population should also include studies aimed at determining the specific pressures which the Nation's population growth could be expected to place on the capacity of Federal, state, and local governmental structures to serve their citizens. We need to know more, in short, about how our society and its government must be organized, and its resources allocated, in order to maximize individual well-being in an expanding population.

Research is needed on the impact of population change on relations between nations. There is also a lack of adequate knowledge and understanding of the economic, social, and political consequences of high rates of population growth and high population density in the less-developed areas of the world. Studies of the economic, social, and other correlates of demographic transition are needed for understanding in advance the consequences of changing population size, composition, distribution and rates of population growth resulting from various fertility trends. The direct and indirect impact of population change in less-developed countries with high rates of population growth, rural-urban migration and city growth on administrative capability and on political behavior remains to be explored.

The effects of population density and growth on the natural environment and the quality of human life need much more study which should involve many disciplines whose findings, theory, and insights until now have only marginally been brought into association.

f. Research on Operational Aspects of Population Programs

Better information is needed for the most efficient and effective implementation of population action programs and to solve a variety of administrative and technical problems in the delivery of family planning services or conduct of other operational programs in the population field.

Serious gaps are evident when one attempts to specify how a family planning program should be carried out, how to measure the need for services, how to overcome the barriers posed by ignorance or prejudice which affect utilization of family planning services, etc. Relative cost effectiveness of various delivery patterns in family planning need to be studied and applied to specific field situations in order to answer questions on the effects of clinic locations, contraceptive and other services, follow-up methods, etc., as they impinge on utilization of the services offered.

We need improved knowledge about desirable staffing patterns, overall manpower needs, and the necessary preparation of personnel for the provision of family planning services or for carrying out other types of population programs. Until now little explicit research on these subjects has been carried out. We need ways to improve the evaluation of the impact of various fertility control measures whether direct (as in the case of the provision of family planning services) or indirect (as in offering women gratifying alternatives to childbearing or the employment of so-called "incentives" and "disincentives" to induce couples to reduce fertility).

Ideally operational research needs to be built in as part of each operating program before the program is initiated. Such research can provide continual feedback of data to guide the program operators in improving the efficiency of their operation, assessing whether the program is accomplishing its stated objectives and identifying promising solutions to any shortcomings or problems encountered.

Techniques and models for incorporating effective operational research chould be aggressively developed, tested, and communicated to operators of family planning and other population programs which are now often forced to operate on a hit-or-miss basis without adequate continuing evaluation. We need communication research in order to test and improve communications and educational efforts with the public and within program staffs.

We need techniques to estimate contraceptive requirements needed to bring about a given reduction in crude birth rates taking into account parity, age distritution, and contraceptive efficiency. Operational research is also needed on action programs designed to prevent over-urbanization, crowding, and other environmental problems. We need studies of the extent to which families plan their activities and their future life objectives and assessment of the implications of such general planning on the part of couples as motivation for their adoption of family planning practices.

III. Interests of Federal Agencies in Population Research

Because of the pervasive nature of problems associated with the growth rate, size and distribution of population, a number of Federal agencies have more than a passing interest in population research. This widespread interest is reflected in the makeup of the Ad Hoc Group on Population Research, in the variety of ongoing research activities reported in the attached Federal inventory, and in the active participation by these agency representatives in the numerous meetings held by the Ad Hoc Group.

The nature of the interests and activities of each agency in the field of population research varies widely, but can be classified into several general categories. A number of agencies, indeed most Federal agencies, must take into account forecasts of population size and distribution in order to plan their activities and to discharge the responsibilities for which the agencies were created in the first place. Many agencies, however, do not gather the demographic information nor analyze it, but instead rely on general statistical agencies such as those in the Bureau of the Census, the Department of Agriculture, the National Center for Health Statistics or the Bureau of Labor Statistics to provide at least the raw data upon which to base their forecasts.

Another type of involvement in population research refers to such activities as the general statistical agencies just cited who are specifically charged with responsibility for and budgeted for collecting descriptive data and keeping track of trends in order to facilitate the most accurate forecasts possible.

A third general type of activity or interest lies in the search for new knowledge or new techniques which may help provide solutions to the population problem or at the very least suggest improved means of intervening in the processes leading to excess fertility, undesirable crowding, etc.

Still other interests in population research exist in those agencies which have fundamental science programs which, while not necessarily targeted on any particular social problem, may provide important insights which can be applied in the search for solutions to population problems, as well as to other types of problems, either of a scientific or an applied nature. This sort of contribution is readily apparent in the case of certain biological research but is no less true for other kinds of fundamental investigations in demography or in other social, behavioral or policy sciences.

Some agencies are involved in action programs either in the delivery of family planning services or in information programs to help people use family planning services on a voluntary basis or in any other form of action program designed to influence fertility in a given population. In connection with such activities, operational research is one important means of increasing the efficiency and effectiveness of the action programs themselves and also of evaluating their impact as a basis for program planning and for providing an accounting to the Congress and to the public as to the success of their stewardship.

One last type of involvement of the various Federal agencies in activities relevant to population research consists of methodological studies which may or may not have been conducted in the context of population research, or with population problems in mind. However, it should be apparent that basic measurement or procedural techniques in demography, in biostatistics, in reproductive biology, in operational research techniques or in the testing of pharmaceutical and other materials may be both relevant and crucial to increasing the payoffs and efficiency of population research.

The following thumbnail skethces highlight the involvement or interest of various Federal agencies in population research.

Agency for International Development

The philosophy and strategy upon which the AID population and family planning program is based may be characterized by the major goal to improve the health, well-being, and economic status of the peoples of the developing countries by improving the conditions of human reproduction in these societies. This goal has been made a part of the Foreign Assistance Act (Title X - Program Relating to Population Growth) which instructs the Agency to establish programs relating to population growth and includes, but is not limited to, demographic studies, medical, psychological, and sociological research and voluntary family planning programs, including personnel training, the construction and staffing of clinics and rural health centers, the manufacture of medical supplies, and the dissemination of family planning information, and provision of medical assistance and supplies.

In consonance with the Agency's objectives and posture with respect to the population/family planning programs in the less developed areas, the following areas of research are of immediate concern:

1) Investigations into the effectiveness and efficiency of alternative approaches to extension of family planning services;
2) Improvements in the techniques of measuring and estimating population size and composition, and births, deaths, and population changes;
3) Development of new and improved means for fertility regulation;
4) Investigations into the factors influencing utilization of family planning services.

As of April 30, 1969, ongoing population research is being funded in the amount of approximately $5,019,000.

Bureau of the Census, Department of Commerce

The Bureau of the Census is a general-purpose statistical agency whose mission is to collect, process, compile, and disseminate statistical data for the use of the Congress, the Executive Branch, and the general public. It is the authoritative source -- and for most purposes the sole source -- of information on the number and characteristics of the population of the United States and the individual areas which make up the Nation.

The decennial Census of Population provides a vast amount of detailed information for showing the characteristics of counties, cities, towns, and urban neighborhoods, and for analyzing specific subjects such as occupational characteristics or education.

To develop information needed between censuses on changes in the number and distribution of the population, and changes in employment, school enrollment, income, family size and composition, and other social and economic characteristics, the Census Bureau: conducts sample surveys, which provide data on population characteristics for the United States and its larger subdivisions; prepares estimates and projections of the population for the Nation, the States, and metropolitan areas; and provides demographic survey facilities, special local censuses and other statistical services needed by Federal agencies and other data users in the development of statistics for policy planning and other purposes; conducts an extensive program of international statistical training and technical assistance; and compiles and analyzes foreign population statistics.

The Census results make it possible to learn much about the family organization, settlement patterns, education, work relationships, income and other important characteristics of our people. A series of Census monographs was first issued by the Bureau of the Census after the 1920 Census results had been published, with expanded efforts following the 1950, 1960 and (tentatively) the 1970 Census.

Both the Census and the current survey programs are founded on an extensive and continuing program of research into methods of sampling, data collection, data processing, and evaluation of the data.

As of April 30,1969, $18,000,000 was being expended in FY 1969 for 1970 Census preparatory work, population estimates and projections, and the current population survey. An additional $5,900,000 covers work performed by the U.S. Bureau of the Census under reimbursable agreements with various governmental agencies and not allocated to the funding agencies in this presentation.

Department of Health, Education, and Welfare

Population and family planning research in DHEW includes the promotion and support of research and research-training in the biomedical and behavioral aspects of fertility and sterility.

The basic research programs of the DHEW in the field of population and human reproduction are centered in the National Institutes of Health. The Center for Population Research was established within the NICHD by DHEW in 1968 to serve two primary functions: (1) to organize and direct a contract program in population research and (2) to be the focus of information and coordination for population research efforts throughout the Federal Government. The Center for Population Research has launched contract research concentrating in two areas of investigation: The development of new contraceptives, and population research in the social sciences.

Other NIH efforts include: studies concerned with various facets of endocrinology which make an important contribution to knowledge of basic mechanisms in reproduction as a springboard for the development of new methods for controlling normal reproductive processes; grants for research training in reproductive physiology as well as several directly focused on demography and population dynamics; studies which include the effects of estrogens, progestins, or steroid contraceptives as aspects of broader investigations of blood clotting mechanisms or circulatory physiology; several studies in reproductive neuroendocrinology;

and general research support for a variety of investigations in areas relevant to the population field as well as grants for the construction and operation of laboratory, animal and clinical facilities where population research is conducted.

The Food and Drug Administration (FDA) is responsible for approving contraceptive drugs as to safety and effectiveness before they are marketed and for maintaining surveillance of the drugs after their approval. FDA supports studies to evaluate various suspected side effects in human and animal populations.

Several components of the Health Services and Mental Health Administration (HSMHA) are involved in population and family planning research.

National Center for Health Services Research and Development conducts and supports research and development, technical assistance, and information activities to improve the organization and delivery of health services, which can include family planning services.

The National Center for Health Statistics (NCHS): collects and analyses the wide range of health and demographic statistics needed for health planning and program evaluation; collects and publishes natality and mortality statistics, as well as marriage and divorce statistics; engages in research on the dynamics of population change and examines some of the social and economic factors associated with change; and is developing a uniform national family planning reporting system to provide a meaningful body of data essential for the efficient and effective development, operation, and evaluation of family planning programs throughout the Nation.

The National Institute of Mental Health (NIMH) conducts or supports research: in the mental health and behavioral aspects of fertility and family life; to identify the special contributions that can be made in clinical family planning services by mental health-trainined personnel; to encourage increasing efforts to meet the family planning needs of psychiatric patients. Other NIMH activities include studies of communication and decision-making within families, motivation, sex education, and birth order studies, as well as projects on family formation, child spacing, and animal studies of population density.

The Social and Rehabilitation Service has the responsibility to provide family planning services as a regular part of health services for the underprivileged; for those eligible for medical assistance (both men and women); and for mothers and children in low-income urban and rural areas in order to promote their health, reduce maternal and infant mortality and morbidity, and help reduce out-of-wedlock pregnancies. It supports carefully targeted program research, evaluation and demonstration projects in family planning.

As of April 30, 1969 ongoing population research is being funded in the amount of approximately $16,412,000.

Department of Defense

While the Department of Defense mission is not significantly concerned with population and family planning matters, several of its activities are, or could be, relevant.

The military Medical Departments operate a large medical and health system worldwide, providing care to military personnel, their dependents, and other eligible people. As part of this care, family planning services and materials are provided upon request.

In addition, clinical research is encouraged in military hospitals and clinics as part of medical training and to maintain high quality medical care. A few of the clinical research studies in biology, physiology, and biochemistry are relevant to population and family planning.

Finally, the uniform medical record and statistical systems maintained by the military Medical Departments are a potential source of information for various studies related to family planning.

The ongoing population research projects which were reported for the inventory did not include funding information.

Department of Housing and Urban Development

The objectives of HUD generate a number of population research needs, most of which relate to the description, determinants and consequences of population size, distribution, and trends. The necessity, for example, to estimate the future demand for housing and urban services, the need to assure adequate urban planning procedures, and the need to design appropriate and responsive urban renewal and Model Cities programs, all require more information about the pattern, size and distribution of future population growth. HUD program responsibilties also engender the need to know more about the effects of population shifts on families and the effects on families of relocation caused by various urban development programs.' There is also the need to know more about present and future variations in family size, the effect of crowding on families, and the related question of how various kinds of families and communities use space.

As of April 30, 1969, ongoing population research is being funded in the amount of approximately $432,000.

Department of the Interior

The Department of the Interior's interest in population research stems from its concern about random population growth which is at the root of mineral reserve loss, the degradation of air and water quality, as well as the erosion of the quality of human life in our everyday surroundings and the loss of sanctuaries for beauty and quiet contemplation.

There are several bureaus and offices of the Department of the Interior that are both potential users and potential generators of research data on population trends in the United States. These include specifically the Bureau of Commercial Fisheries, whose research on long term trends in fishing are of course influenced by the potential markets. Similarly, those bureaus and offices of Interior that are concerned with power generation also have an interest in potential markets. Demographic projections, geographic centers of concentration, age group analyses, economic status, and other factors that will govern the population's use of mineral resources, the public lands and our fisheries and wildlife resources are of course of interest to various bureaus of this Department. Outdoor recreational research specialists are now entering the field of human behavior research in an effort to learn what recreational facilities should be provided in the coming decades.

As of April 30, 1969, ongoing population research is being funded in the amount of approximately $15,000.

Department of Labor

The primary focus of research undertaken or sponsored by the Department of Labor is directed at employment-related aspects of human population problems. These areas of concern--among which are included unemployment, underemployment, hours, earnings,working conditions, productivity, cost of living, job opportunities, and training of workers--cannot be considered independently of demographic, social, and cultural attributes of the workers and of the society which contributes to their successes and problems as workers. Consequently, the research functions of the Department, while essentially economic-oriented, are also frequently concerned with population characteristics and dynamics such as age, sex, race, changes in marital and family status, mobility, and geographic location, as well as with problems arising from consequences of population dynamics. These include effects of population concentration on supply and demand for labor, on transportation, living and working conditions; the relationship between size of family or economic needs and employment of women; and the problems of discrimination in employment relating to population characteristics.

As of April 30, 1969, ongoing population research is being funded in the amount of $6,200,000. This excludes $3,400,000 transferred to the Bureau of the Census for work to be done under a reimbursable agreement.

National Aeronautics and Space Administration

NASA has specific responsibility for developing the applications of satellites which includes remote multispectral sensing from satellites to study direct effects of man on environment including pollution, urban growth and possibly census related activities. Airplane flights are now being made to develop the sensor techniques for potential later flight on spacecraft.

Effects of restraint and crowding on long term space flights, with attendant problems of micro-biological changes, waste handling, and the problems of odors and contaminants, are being studied.

The ongoing population research projects which were reported for the inventory did not include funding information.

National Science Foundation

The National Science Foundation supports population research through a variety of programs. These deal in part with animal population studies which may provide insight into factors which influence human populations and with broad areas of biology related to reproduction, growth, and development. There is also a substantial activity in studies of the nature, determinants and consequences of human population characteristics and dynamics. More specifically, these include the development of basic data and techniques for such studies and extend through scientific studies relevant to the development and evaluation of population control efforts and techniques. The units studied vary in size from the world population down to the individual whose biological nature, knowledge, attitudes and resultant behavior help to determine the overall societal trends. Interest may focus on past populations, on present populations or on projections of future populations or simulations of populations under varying social, economic, political, or other contingencies. The National Science Foundations does not, however, support research which has as its goal the advocacy of population policies or demonstrations of specific strategies of population control.

As of April 30, 1969, ongoing population research is being funded in the amount of approximately $849,000.

Office of Economic Opportunity

The program of the Office of Economic Opportunity is concerned with population studies and population data in at least two respects:

1. Descriptive information concerning the size, the geographical distribution, and the demographic characteristics of the poverty population of the United States.

2. Socioeconomic differentials in fertility, mortality, migration, and social mobility.

The definition of poverty used by the Federal Government is an economic one which in effect recognizes poverty as a personal and family attribute such that information about the characteristics and geographical distribution of population is of critical importance in the programming of the efforts directed against poverty. Beyond this descriptive effort, understanding the nature of poverty requires understanding of the way in which basic demographic processes affect the poverty population as contrasted with the population in general. Thus, phenomena such as the rate of national increase and the manner of population redistribution among persons in poverty are of special importance in understanding poverty-associated processes.

Of special significance for anti-poverty efforts are investigations concerned with: 1) fertility limitation among women and families in poverty circumstances, ranging from concerns about family planning and national fertility policies, to consideration of the right of choice of women and families to determine effectively the number of children they desire to have; and 2) processes related to population redistribution especially those affecting the movement of population from rural areas to central cities of large metropolitan areas.

As of April 30, 1969, ongoing population research is being funded in the amount of approximately $1,667,000.

The Smithsonian Institution

The mission of the Smithsonian Institution is the increase and diffusion of knowledge among men.

Three orders of population research activities exist within the framework of the Smithsonian Institution:

Direct

1) Science Information Exchange
   - a) conducts exchange of information of current scientific projects supported by Federal agencies and other cooperating foundations.
   - b) prepares Bibliography of Research in Physiology of Reproduction.
2) Interdisciplinary Communications Program
   - a) conducting series of small group interaction discussions on Population-Growth Consequences and Control.

Relevant

1) The only set of Human Relations Area Files in the Washington area is maintained by the Office of Anthropology. This consists of systematically classified, comprehensive primary data from the anthropological literature and from unpublished sources on about 250 ethnic or tribal groups in all parts of the world. It provides a means of rapidly securing data on specific topics for cross-cultural research.

2) The Office of Ecology has been set up 1) to contribute to theory in population biology and ecosystem science and 2) to provide information essential to the Federal Government in the evolution of society in the critical years ahead.

Potential

Development of Institute or Laboratory of Comparative Reproductive Biology in association with the Zoological Garden.

Department of State

The Department of State is interested in, and follows available information on, demographic trends abroad that may affect the interest of the United States or its citizens. These include population growth, rural-urban migration and city growth, particularly in areas of very rapid population growth. The Department, including its semiautonomous component AID, has been given the mission of assisting those countries which desire such assistance 1) to ascertain and understand the implications of their demographic situation and 2) to conduct voluntary fertility reduction programs. While the Department of State itself currently neither conducts nor directly funds population research, it does make financial contributions, both for general support and specifically earmarked for population/family planning, to the United Nations and its specialized agencies, which do engage in such research.

The Department thus is interested in two broad categories of research on population: 1) that which might throw light on the effects of demographic trends or situations on economic, social or political processes and 2) that which relates to the effectiveness of various existing and possible programs for reducing high birth rates, ameliorating the effects of internal migration and related matters, including particular attention to means by which environments conducive to lowered birth rates might be developed.

U.S. Department of Agriculture

The U. S. Deparment of Agriculture has been continuously involved in population research for half a century.

In general, the interest of the Department is in the size, distribution, composition, migration, and trends of the farm and other rural population; factors affecting this population; and the economic and social implications of rural population conditions and trends. Data are intended primarily for broad policy guidance and evaluation purposes, rather than as program operation aids.

The research of the Washington-based Population Studies Group most typically focuses on the production of national annual data series on farm population and migration (some of which are conducted jointly with the Bureau of the Census), and the preparation of estimates or analyses involving all counties of the nation. A major recent example of the latter type of research was the issuance of estimates of net migration for all counties by age, color, and sex for the period 1950-1960.

Rural population research of a more local nature is usually conducted by State universities with some of this work organized at the regional level, in order to promote regional research approaches to agricultural and rural problems.

Within the Agricultural Research Service some work of a demographic nature is also occasionally done (e.g., the influence of family structure and attitudes on migration decisions) and there is a long history of work in animal reproductive biology. While this latter work generally relates solely to the achievement of agricultural objectives, research now under way on dairy cattle, concerning the control of conception with intrauterine devices, hopefully will enhance understanding of the mechanism of this contraceptive method in humans.

As of April 30, 1969, ongoing population research is being funded in the amount of approximately $283,000.

Veterans Administration

Since the VA provides extensive medical care over a long period of time to many veterans, it is confronted with the clinical problems of aging persons. This provides a forecast of problems that the nation as a whole faces as the older segment of the general population increases, bringing on the problems of chronic disease that develop with advancing age. Consequently, the VA program in aging and the handling of long-term illness is germane to foreseeable problems affecting a substantial portion of the population. Similarly, as a growing population places increasing pressures upon the health services available, VA facilities and clinical advances have tremendous relevance in the search for improved procedures for the delivery of health services and the training of health service personnel.

IV. Recommendations of the Ad Hoc Group on Population Research

1. The Scope of Research Relevant to Human Population Problems

Since human population problems are intimately related to most other phenomena of major social concern, the question of how to characterize the scope of population research received a great deal of our attention. We concluded that a comprehensive definition would be most useful within the Federal Government as an educational device and as a basis for information exchange and cooperation among Federal agencies.

At the same time, we recognize that in responding to various population problems, Federal agencies will undoubtedly have to concentrate on different phenomena at different times. Therefore, the following definition is proposed as a working agreement which will change gradually over time as dictated by growing Federal experience and sophistication in the population field.

WE RECOMMEND THAT THE FOLLOWING DEFINITION BE USED BY ALL FEDERAL AGENCIES TO CHARACTERIZE POPULATION RESEARCH:

Population research comprises studies of the nature, determinants, and consequences of population characteristics and dynamics and the development of basic data and methods for such population analyses. Physical, biological, psychological, cultural, social, economic, geographic, historical, and political factors may all be included in population studies. Operationally useful sub-divisions of the field are:

a. Systematic description of population characteristics and dynamics including fertility, mortality, and migration; of geographic distribution and socioeconomic composition; and of various correlates of differential demographic rates.

b. Studies of the biological, psychological, social, and environmental determinants of population characteristics and dynamics, and of the effects of efforts to influence demographic rates.

c Studies of the consequences of population characteristics and dynamics, at both personal and societal levels, with attention to technical, industrial, economic, political, psychological, social, environmental, educational, health, and related factors.

2. Meeting Population Research Needs

Earlier in the report we described research needs and opportunities identified by our Group based on our discussions and our review of ongoing Federal research activities. We believe increased research efforts are needed to meet these needs. We recommend that each Federal agency consider these needs in relation to its ongoing population research activities and responsibilities.

3. A Standing Committee on Population Research

Since the establishment of the Ad Hoc Group on Population Research in October, 1968, population problems have received markedly increased attention by the Congress, the Executive Branch, international organizations, and the mass media. The Ad Hoc Group on Population Research was established by the FCST for a limited period of time to accomplish a few specific purposes. With this report, the tenure of the Group is at an end. We are of the opinion, however, that the work initiated by the Group is but a beginning; the agreement upon a definition for population research and the survey of ongoing Federal population research activities represent a start toward continuing coordination and improving the efficiency of Federal activities in the area of population research. Specifically, we find that there is a need to:

a. Provide continuing review and evaluation of Federal activities bearing on population research, assess the quality and adequacy of efforts underway and suggest topics on which "state-of-the-art" analyses should be prepared on scientific knowledge and technology concerning population problems;

b. Provide advice on gaps and priorities in all research relevant to population problems, whether the research is Federally supported or not;

c. Provide advisory opinion on the most appropriate mechanisms of support and organizational locus (loci) for the support of population research identified in "b" above;

d. Provide advice on the prompt and effective utilization of relevant scientific and technical knowledge to the various Federal agencies having action programs attempting to cope with various aspects of the population problems.

In order to carry out the above functions it is necessary to:

e. Review periodically those Federal mechanisms which attempt to identify relevant research underway and ascertain additional research needed;

f. Review ongoing Federal information efforts and provide advice improving the collection and dissemination of bibliographic and other information concerning activities and issues relevant to population;

g. Assure identification of existing and new organizations involved in the conduct or support of needed research in the population field and provide advice on how the various Federal agencies can relate more effectively to one another and to the various domestic, foreign and international organizations involved.

We believe that these needs can best be fulfilled by a Standing Committee composed of representatives of Federal agencies engaged in or concerned with population research. In order to be effective such a Committee must be interagency in composition and should provide for involving in its deliberations not only technical and scientific personnel, but also operating personnel facing population problems requiring research. Therefore, we recommend the establishment at an appropriate locus within the Executive Branch of a Standing Committee on Population Research.

Because organizational arrangements and assignment of Federal responsibilities in the population field are currently under intensive scrutiny within the Federal Government, we have elected to characterize the general nature and functions rather than specifying in detail the organizational locus and composition, of the proposed Standing Committee or of the staff which will be required. The Committee should be advisory rather than executive in nature; it will have to coordinate its efforts with other committees and give

attention to other research programs within the Federal Government and elsewhere that may affect population or contribute to the solution of human population problems.

PART TWO

I. Introduction and Description of Part Two

Inventory of Ongoing Population Research Supported by Federal Agencies

The Ad Hoc Group on Population Research was asked by the Federal Council for Science and Technology to undertake "a pilot review of existing population research conducted or sponsored by the various Federal agencies". The resulting list of ongoing research activities appears on pages 1-48 of this part of the report.

Definition of Population Research

The "Interim Scope and Definition on Research Relevant to Human Population Problems" (Appendix A), developed by the Ad Hoc Group, was used as the guide for compiling this inventory.

Classification Scheme

In developing the classification scheme particular consideration was given to building a system which was problem-oriented, broadly comprehensive, and relevant to the special needs of researchers and administrators concerned with population problems, programs, and policies. The traditional classification by academic disciplines or specialties was deemphasized, partially because of the interdisciplinary and multidisciplinary nature of the population studies themselves, but more important to reflect a mission approach.

Six categories were established for the classification scheme. The biomedical studies comprise two major categories--reproductive biology and fertility regulation. The research projects under reproductive biology were organized by the stage of reproduction or reproductive development. The projects are of a fundamental nature and are concerned with elucidating the physiological and morphological processes which may be manipulated experimentally and controlled. The fertility regulation category includes studies of the efficacy, safety, mode of action and side effects of presently available agents; the identification, isolation and synthesis of new chemical agents with antifertility properties; and new fertility regulation techniques involving immunological studies.

Classification of non-biological factors differentiated between population as the dependent and independent variables in two other categories.

A special category was established to include descriptive activities such as those conducted by the Bureau of the Census, Department of Commerce and the Bureau of Labor Statistics, Department of Labor, among other organizations, which characterizes the status and trends in population. This category, "Description of Population Size, Distribution, Characteristics and Trends", encompasses a number of related activities which heretofore have not been included in compilations of population research activities.

To round-out the mission-orientation of the classification, a category concerned with operational research on population programs was established. Research on the components--men, material and organization--for planning and evaluating programs are included in this group.

Individual large awards to institutions to conduct a number of multidisciplinary studies in population were treated in a separate category, "Institutional Programs".

Using the definition as a guide, a detailed classification system was drawn up into which related projects were categorized. The categories were tested for consistency and completeness of coverage, and were empirically modified to yield the final classification (Appendix B) used for this inventory.

In the process of reviewing the projects for inclusion in the inventory, the areas for exclusion were identified. For the biomedical sciences, the exclusions may be broadly characterized as those dealing with the reproductive process in unicellular organisms, plants and lower animal forms in the phylogenic scale. The early developmental process beyond implantation or nidation is not covered except for those studies concerned with spontaneous abortion and infertility. Studies concerned with pathological conditions were excluded from the inventory.

For the behavioral and social sciences, illustrative types of exclusions are studies on the labor force per se, family life and patterns without reference to family size and family planning, urban development and urban problems, and animal population processes.

Preparation of Inventory

Information about the support or conduct of population research was furnished by a total of 13 Federal agencies. These include the organizations represented on the Ad Hoc Group, as well as the Atomic Energy Committee, Department of Defense and the Veterans Administration.

Members of the Group served as the liaison for their agencies in responding to the inventory. Their participation contributed considerably to the expeditious results which were achieved.

Emphasis was on the comprehensive reporting of projects which would characterize the breadth of the field rather than the depth.

The time constraints did not allow for an exhaustive identification of all projects. However, agencies were encouraged to submit each research project which in their judgment had relevance to population research. Large institutional grants were to be reported as a single project.

The questionnaire and accompanying explanations and instructions for conducting and responding to the inventory comprise the four pages of Appendix C.

The cut-off date for reporting active projects was April 30, 1969. As a result, projects which were in the process of approval within the current fiscal year, were not included. These additional projects will be included in "Current Population Research: 1969", being compiled by the National Institute of Child Health and Human Development, National Institutes of Health, DHEW, as part of its annual report series dealing with all ongoing activities in population research and research training.

A total of 693 projects were reported by the Federal agencies. Of these, 411 projects were classified as relevant to human population problems and are shown in the citation list. The remaining 282 projects were excluded by the Ad Hoc Group as falling outside of the scope and definition of the field.

The initial determination of the inclusions or exclusions as well as the classification of projects was performed by the staff of the Scientific Information Centers Branch, National Institute of Child Health and Human Development. Task forces for the biomedical and the behavioral sciences made up of members of the Ad Hoc Group or their representatives reviewed these determinations. Only selected individual projects or groups of closely related projects for which there was a question of inclusion were considered and reviewed by the members of the Ad Hoc Group.

On comparing the classification scheme with the listing of project citations, projects have been shown for all but two classifications. There were no projects reported dealing with a) environmental effects on population and b) consequences of population on family size, composition and roles.

Each project included in the inventory is listed only once in this compilation and is assigned to the category or subcategory which most nearly describes primary focus of the project.

A complete citation provides the following information:

a) title of research project (In some instances, subtitles or descriptors have been added to indicate relevance to the field, species differentiation or to provide an expanded description.)

b) name and institutional address of principal investigator(s)

c) supporting agency

d) mechanism of support

e) grant/contract identification number

f) amount funded for full current year or fiscal year

g) number of years of support and total funding for this period

For some of the projects, complete information was not available. For example, funding information was not provided for approximately 10 percent of the projects which had been reported. This is the case for in-house activities, particularly, and for some awards. Missing information is indicated in the citation by dots.

Within each classification, the citations are arranged alphabetically by supporting agency and their subdivisions. For each supporting agency, the projects are further grouped according to the mechanism of support. Finally, a consecutive index number which appears in the left hand column, has been assigned to each citation.

An alphabetical listing of investigators follows the citation list on page 49 of this part of the report. This list has been keyed to the index numbers mentioned above.

A summary tabulation, Appendix D, indicates the number of projects included in the inventory, the number for which funds have been reported, and the total amount of funds. This tabulation has been arranged in accordance with the classification scheme which has served as the framework for the inventory of population research supported by the Federal Government and the citation list which follows.

II. INVENTORY OF ONGOING POPULATION RESEARCH SUPPORTED BY FEDERAL AGENCIES

REPRODUCTIVE BIOLOGY

MULTIPURPOSE RESEARCH

1 PRIMATE RESOURCE STUDIES IN REPRODUCTIVE BIOLOGY
Mastroianni, Luigi School of Medicine, University of Pennsylvania, Philadelphia, Pa.
DHEW Grant FR 00340-02; $94,110; for 7 years $721,700

2 PRIMATE RESOURCE FOR STUDIES IN REPRODUCTIVE PHYSIOLOGY
Knobil, Ernst University of Pittsburgh School of Medicine Pittsburgh, Pa.
DHEW Grant FR 00298-03; $132,000; for 7 years $914,263

3 LABORATORY FOR HUMAN REPRODUCTION
Ebert, Robert H. Harvard University Medical School, Boston, Mass.
DHEW Grant FR 03303-01; $1,621,000; . . .

4 GENERAL RESEARCH SUPPORT GRANTS, BIOMEDICAL SCIENCES SUPPORT GRANTS, HEALTH SCIENCE ADVANCEMENT AWARDS
. . . . . .
DHEW Grant GRS; $600,000; . . .

5 GENERAL CLINICAL RESEARCH CENTERS (provides some support for research in reproductive biology)
. . . . . .
DHEW Grant (DRFR); $140,000; . . .

6 REPRODUCTION IN PRIMATES AND OTHER MAMMALS
Glasser, Stanley R. Vanderbilt University School of Medicine, Nashville, Tenn.
DHEW Grant HD 00673-05; $142,048; for 5 years $696,335

7 EFFECT OF MATERNAL AGE ON REPRODUCTIVE CAPACITY (in mice)
Talbert, George B. Research Foundation of the State University of New York, Brooklyn, N.Y.
DHEW Grant HD 02014-03; $10,198; for 3 years $32,400

8 PHYSIOLOGY OF THE FEMALE TRACT
Chang, M.C. Worcester Foundation for Experimental Biology, Inc., Shrewsbury, Mass.
DHEW Grant HD 03003-08; $46,101; for 12 years $337,693

9 STUDIES ON HUMAN REPRODUCTION AND CONTRACEPTION
Moghissi, Kamran S. Wayne State University, Detroit, Mich.
DHEW Grant HD 03416-01; $248,800; . . .

10 ENDOCRINE FACTORS IN REPRODUCTION
Hertz, Roy; Tullner, W. and Wilson, J. National Institute of Child Health and Human Development, NIH, Bethesda, MD.
DHEW In-house; . . .

11 PRIMATES IN CARDIOVASCULAR RESEARCH (a portion of this program project grant is concerned with the breeding of the cebus monkey. Reproductive cycle is being mapped out)
Stare, Frederick J. Harvard University School of Public Health, Boston, Mass.
DHEW Grant HEP 10098-04; $252,290; for 4 years $883,016

12 THE NATURE OF HORMONE-PRODUCING AND HORMONE-SENSITIVE TUMORS IN MAN, INCLUDING TUMORS OF BREAST, PROSTATE, UTERUS, PITUITARY ADRENAL, OVARY AND TESTIS: ABNORMALITIES OF SOMATIC DEVELOPMENT AND GROWTH
Lipsett, Mortimer P. National Cancer Institute, NIH, Bethesda, Md.
DHEW In-house; . . .

13 REPRODUCTIVE BEHAVIOR OF CAGED RHESUS MONKEYS
Myers, Ronald E. National Institute of Neurological Diseases and Stroke, NIH, Bethesda, MD.
DHEW In-house; $45,764; . . .

ENDOCRINE FACTORS

Neuroendocrine factors

14 ROLE OF THE BRAIN IN MALE AND FEMALE REPRODUCTION (regulation of gonadotropin secretion)
Davidson, Julian M. Stanford University School of Medicine, Stanford, Calif.
DHEW Grant HD 00778-05; $61,066; for 6 years $271,200

15 STUDIES ON THE OVARIAN-HYPOTHALAMIC-HYPOPHYSEAL AXIS
Gorski, Roger A. University of California, Los Angeles, Calif.
DHEW Grant, HD 01182-06; $46,643; for 6 years $199,465

16 REGULATION OF REPRODUCTION IN FEMALE GUINEA PIGS (hypothalamic regulation of gonadotropin secretion)
Barraclough, Charles A. School of Medicine, University of Maryland, Baltimore, Md.
DHEW Grant HD 01514-04; $16,948; for 5 years $90,800

17 SEXUAL DIFFERENTIATION OF NEUROENDOCRINE SUBSTRATES
Wagner, Jackson W. Baylor University College of Medicine, Houston, Tex.
DHEW Grant HD 01630-03; $16,243; for 3 years $51,515

18 CENTRAL NERVOUS REGULATION OF GONADOTROPIN SECRETION
Barraclough, Charles A. School of Medicine, University of Maryland, Baltimore, Md.
DHEW Grant HD 02138-06; $39,317; for 7 years $232,815

19 NEUROHUMORAL CONTROL OF OVIDUCT FUNCTION
Harper, Michael J.K. Worcester Foundation for Experimental Biology, Shrewsbury, Mass.
DHEW Grant HD 02597-02; $28,489; for 3 years $91,350

20 REPRODUCTIVE BEHAVIOR, HORMONES AND BRAIN CHEMISTRY
Zucker, Irving University of California, Berkeley, Berkeley, Calif.
DHEW Grant HD 02982-01; $26,765; for 3 years $82,850

21 ENDOCRINE INFLUENCING CENTERS IN THE HYPOTHALAMUS
Bogdanove, Emanuel M. Indiana University Foundation, Bloomington, Ind.
DHEW Grant NB 03371-09; $66,640; for 11 years $404,903

22 CNS: PITUITARY: OVARY INTERRELATIONSHIPS
Greep, Roy O. Department of Endocrinology, Harvard School of Dental Medicine, Boston, Mass.
DHEW Grant HD AM 03726-16; . . .

23 STUDIES ON THE NEURAL CONTROL OF PUBERTY (brain structures involved in stimulation of pituitary gonadotropin secretion)
Bar-Sela, Mildred Elwers Baylor University College of Medicine, Houston, Tex.
DHEW Grant NB 04645-06; $29,963; for 6 years $131,945

24 NEURAL CONTROL OF GONADAL FUNCTION
Taleisnik, Samuel Institute de Investigacion Medica Mercedes y Martin Ferreyra, Cordoba, Argentina
DHEW Grant NB 04732-05; $10,000; for 6 years $267,750

25 NEURAL CONTROL OF THE PITUITARY AND PINEAL
Fiske, Virginia M. Wellesley College, Wellesley, Mass.
DHEW Grant NB 01556-10; $5,648; for 10 years $52,340

N

26 INTERACTIONS BETWEEN ENDOCRINES AND BRAIN FUNCTION. (feed back-control of progesterone, hippocampo-hypothalamo-pituitary-gonadal-axis)
Masazumi, Kawakami Yokahama University School of Medicine, Yokahama, Japan
DHEW Grant NB 03860-05; $1,850; for 5 years $23,196

27 THE NEUROANATOMICAL BASIS OF REPRODUCTIVE ACTIVITY IN MALE RHESUS MONKEYS
Myers, Ronald E. National Institute of Neurological Diseases and Stroke, NIH, Bethesda, Md.
DHEW In-house; $2,080; . . .

28 NERVOUS CONTROL OF THE PITUITARY (luteotropic action of prolactin in the rat)
Hilliard, J. Veterans Administration Hospital, Long Beach, Brain Research Institute, University of California, Los Angeles, Calif.
VA In-house; . . .

Gonadotropic hormones

29 HORMONAL CONTROL OF NORMAL AND NEOPLASTIC TISSUES (luteotropin in vertebrates)
Browning, Henry C. University of Texas Dental Branch, Houston, Tex.
DHEW Grant CA 02880-13; $29,023; for 14 years $257,971

30 HORMONE SYNERGISM ON DORSOLATERAL PROSTATE ZN65 UPTAKE
Gunn, Samuel A. University of Miami, Coral Gables, Fla.
DHEW Grant CA 10010-02; $12,839; for 2 years $25,624

31 INDUCTION OF OVULATION BY GONADOTROPIC HORMONES: A CLINICO-PATHOLOGIC STUDY
Powell, Ralph D., Jr. National Cancer Institute, NIH, Bethesda, Md.
DHEW In-House; . . .

32 SURGICAL ENDOCRINOLOGY (pharmacology of ovulation induction with gonadotropin)
Marshall, John R. National Cancer Institute, NIH Bethesda, Md.
DHEW In-house; . . .

33 LUTEAL AND INTERSTITIAL CELL FUNCTION IN PREGNANCY
Davies, Jack Vanderbilt University, Nashville, Tenn.
DHEW Grant HD 00132-04; $28,440; for 4 years $155,559

34 ENVIRONMENTAL AND HORMONAL INTERPLAY OF OVULATION
Schwartz, Neena B. University of Illinois College of Medicine, Chicago, Ill.
DHEW Grant HD 00440-07; $54,987; for 11 years $365,902

35 MECHANISM OF HORMONE ACTION IN REPRODUCTIVE ORGANS
Spaziani, Eugene University of Iowa, Iowa City, Iowa
DHEW Grant HD 00446-08; $62,293; for 9 years $226,416

36 GONADOTROPINS IN PRIMATES
van Wagenen, G. Yale University School of Medicine, New Haven, Conn.
DHEW Grant HD 00480-10; $16,090; for 11 years $131,751

37 FOLLICULAR AND LUTEAL REGULATION IN THE MAMMALIAN OVARY
Greenwald, Gilbert S. University of Kansas Medical Center, Kansas City, Kan.
DHEW Grant HD 00596-06; $35,857; for 8 years $223,907

38 HORMONE PRODUCTION BY THE OVARY, PLACENTA, AND ADRENAL (pituitary-gonadal-relationships)
Goldfien, Alan University of California Medical Center, San Francisco, Calif.
DHEW Grant HD 00640-05; $16,409; for 6 years $103,813

39 CHOLESTEROL DEPLETION ASSAY OF LUTEINIZING HORMONE
Herbst, Arthur L. Massachusetts General Hospital, Boston, Mass.
DHEW Grant HD 01660-02; . . .; for 2 years $46,775

40 PITUITARY-OVARIAN-UTERINE RELATIONSHIPS
Melampy, R.M. Iowa State University of Science and Technology, Ames, Iowa
DHEW Grant HD 01168-09; $56,946; for 11 years $458,836

41 HORMONAL CONTROL OF ENDOCRINES IN SUBHUMAN PRIMATES
Wiswell, Ozro B. University of Texas at Houston, Dental Branch, Houston, Tex.
DHEW Grant HD 01887-03; $17,881; for 3 years $48,627

42 NORMAL AND NEOPLASTIC GONADOTROPIN-SECRETING TISSUES
Midgley, A. Rees, Jr. University of Michigan, Ann Arbor, Mich.
DHEW Grant HD 02193-02; $36,440; for 5 years $154,439

43 MECHANISMS CONTROLLING CORPUS LUTEUM REGRESSION (luteolytic-pituitary factor)
Malven, Paul V. Purdue Research Foundation School of Agriculture, West LaFayette, Ind.
DHEW Grant HD 02423-02; $19,553; for 3 years $51,289

44 HORMONAL CONTROL OF OVARIAN DEVELOPMENT AND FUNCTION
Armstrong, David T. Harvard University, Cambridge, Mass.
DHEW Grant HD 02503-05; $29,022; for 8 years $171,936

45 PHYSIOLOGY OF GONADAL CONTROL
Odell, William D. Harbor General Hospital, Torrance, Calif.
DHEW Grant HD 02701-02; $51,904; for 3 years $172,719

46 IMMUNOASSAY OF LH IN BLOOD
Hansel, William New York State College of Agriculture, Cornell University, Ithaca, N.Y.
DHEW Grant HD 02765-02; $37,491; for 2 years $67,526

47 ACTIONS OF GONADOTROPINS ON METABOLISM OF OVARIAN CELLS
Ahren, Kurt E. University of Goteborg, Sweden
DHEW Grant HD 02795-02; $9,700; for 3 years $28,500

48 HUMAN LUTEINIZING HORMONE: NORMAL AND ABNORMAL PROFILES
Midgley, A. Rees University of Michigan, Ann Arbor, Mich.
DHEW Grant HD 2929-02; $27,776; for 3 years $68,705

49 REGULATION OF THE HUMAN MENSTRUAL CYCLE
Vande Wiele, Raymond L. College of Physicians and Surgeons of Columbia University, New York, N.Y.
DHEW Grant HD 2996-02; $76,579; for 3 years $211,790

50 ENDOCRINOLOGY OF REPRODUCTION OF DOMESTIC ANIMALS
Nalbandov, A.V. University of Illinois, Urbana, Ill.
DHEW Grant HD AM 03043-06; . . .

51 MECHANISM OF ACTION OF LUTEINIZING HORMONE
Marsh, John M. University of Miami, Coral Gables, Fla.
DHEW Grant HD 03142-01; $31,325; for 3 years $70,425

52 FOLLICLE STIMULATING HORMONE CONTROL IN THE MALE
Johnson, Donald C. University of Kansas Medical Center, Kansas City, Kan.
DHEW Grant HD 03097-01; $15,352; . . .

53 ACTION OF GONADOTROPHINS IN GONADAL TISSUES
Savard, Kenneth University of Miami, Coral Gables, Fla.
DHEW Grant HD 03248-11; $104,858; for 15 years $913,488

54 PHYSIOLOGICAL AND PHARMACOLOGICAL STUDIES ON REPRODUCTIVE PROCESSES IN LABORATORY PRIMATES
Hertz, Roy and Tullner, W. National Institute of Child Health and Human Development, NIH, Bethesda, Md.
DHEW In-house; . . .

55 FEEDBACK CONTROL OF LUTEINIZING HORMONE (LH) RELEASE
Ratner, Albert School of Medicine, University of New Mexico, Albuquerque, N. Mex.
NSF Grant GB 8084; . . .; for 2 years $21,500

56 CELLULAR ROLE OF PROLACTIN STIMULATION OF PIGEON CROP MUCOSA *IN VITRO*
Frantz, William L. Michigan State University, East Lansing, Mich.
NSF Grant GB 8197; . . .; for 2 years $17,500

Gonadal hormones

57 PATTERNS OF STEROID METABOLISM IN CANCER (enzyme studies on normal and diseased gonads)
Engle, Lewis L. Harvard Medical School, Boston, Mass.
DHEW Grant CA 01393-18; $110,800; for 18 years $828,916

58 MECHANISMS OF STEROID HORMONE ACTION AND INTERACTION (amine release, role of cyclic amp)
Roberts, Clara S. University of California, Los Angeles, Calif.
DHEW Grant CA 01488-18; $41,851; for 13 years $397,134

59 14C ESTROGEN METABOLISM IN PREGNANT AND CANCEROUS WOMEN
Levitz, Mortimer New York University Medical Center, New York, N.Y.
DHEW Grant CA 02071-16; $49,937; for 14 years $448,864

60 ESTROGEN-ANDROGEN RELATIONSHIPS IN THE PROSTATE (androgen effect on citrate biosyntheses)
Farsworth, Wells E. Research Foundation of State University of New York, Albany, N.Y.
DHEW Grant CA 02487-14; $9,051; for 14 years $80,511

61 STEROIDS AND GROWTH (conditions under which estrogen *in vitro* will enhance protein synthesis in uterine tissue)
Jensen, Elwood V. University of Chicago, Chicago, Ill.
DHEW Grant CA 02897-13; $71,942; for 13 years $836,416

62 STEROIDS IN RELATION TO ENDOCRINE-STIMULATED CANCERS (estriol and estradiol stimulation of RNA synthesis in uterine and breast)
Wotiz, Herbert H. Boston University, Boston, Mass.
DHEW Grant CA 03135-11; $77,234; for 11 years $504,057

63 THE PHYSIOLOGICAL ROLE OF ESTROGEN SULFATE
Brooks, Sam C. Detroit Institute of Cancer Research, Detroit, Mich.
DHEW Grant CA 04519-10; $17,693; for 10 years $213,175

64 C19-STEROID METABOLISM BY CANINE AND HUMAN PROSTATE (*in vivo* and *in vitro* studies with testosterone)
Ofner, Peter Harvard Medical School, Boston, Mass.
DHEW Grant CA 10343-02; $24,361; for 2 years $52,291

65 ENDOMETRIAL CARCINOMA AND OVARIAN STEROIDOGENESIS
LeMaire, William J. University of Miami, Coral Gables, Fla.
DHEW Grant CA 10692-02; $20,947; for 2 years $48,409

66 ESTROGEN METABOLISM IN NORMAL AND CANCEROUS PERSONS
Slaunwhite, W. Roy, Jr. Medical Foundation of Buffalo, Buffalo, N.Y.
DHEW Grant CA 10726-03; $60,679; for 3 years $100,413

67 ENDOCRINE METABOLIC INFLUENCE IN ENDOMETRIAL CARCINOMA
Benjamin, Fred Long Island Jewish Hospital, New Hyde Park, N.Y.
DHEW Grant CA 11088-01; $26,429

68 A STUDY OF OVARIAN FOLLICULAR GROWTH AND ATRESIA (role of progesterone)
Rothchild, Irving Case Western Reserve University, Cleveland, Ohio
DHEW Grant HD 00028-05; $37,736; for 5 years $177,125

69 PROGESTIN LEVELS AND THEIR SIGNIFICANCE
Forbes, Thomas R. Yale University School of Medicine, New Haven, Conn.
DHEW Grant HD 00456-18; $10,605; for 19 years $158,641

70 MECHANISM OF GROWTH IN ENDOMETRIAL TISSUE (progesterone metabolism)
Sweat, Max L. University of Utah College of Medicine, Salt Lake City, Utah
DHEW Grant HD 00472-12; $40,416; for 12 years $399,522

71 METABOLISM AND SECRETION OF ESTROGENS IN WOMEN
Smith, Olive W. Harvard Medical School, Boston, Mass.
DHEW Grant HD 00709-11; $18,942; for 11 years $130,633

72 PERFUSED OVARY RESPONSE TO LUTEAL TROPHINS AND LYSINS (progesterone synthesis in swine)
Morrissette, Maurice Oklahoma State University, Stillwater, Okla.
DHEW Grant HD 01088-04; $15,590; for 4 years $75,106

73 BIOSYNTHESIS AND PHYSIOLOGY OF OVARIAN STEROIDS
Hilliard, Jessamine University of California, Los Angeles, Calif.
DHEW Grant HD 01177; $41,327; for 7 years $241,504

74 A STUDY OF ADRENAL AND OVARIAN SECRETIONS
Touchstone, Joseph C. University of Pennsylvania Medical School, Philadelphia, Pa.
DHEW Grant HD 01199-11; $55,442; for 12 years $456,369

75 MECHANISM OF ACTION OF STEROID HORMONES (in vitro assay system of using seminal vesicle production of citrate)
Villee, Claude A. Harvard Medical School, Boston, Mass.
DHEW Grant HD 01232-14; $24,959; for 16 years $300,508

76 THE MECHANISM OF ESTROGEN ACTION IN PRIMATES (estrogen production as a function of menstrual cycle phase)
Jacobson, Herbert I. Albany Medical College, Albany, N.Y.
DHEW Grant HD 01732-03; $35,530; for 3 years $121,473

77 BINDING OF ESTRADIOL IN TARGET ORGANS (uterus, vagina, anterior pituitary, and hypothalamus)
Eisenfeld, Arnold J. Yale University School of Medicine, New Haven, Conn.
DHEW Grant HD 02498-02; $34,366; for 3 years $93,099

78 STUDIES ON TESTICULAR FUNCTION (in vivo and in vitro studies in biosynthetic pathway to androgen)
Gabrilove, J. Lester The Mount Sinai School of Medicine, New York, N.Y.
DHEW Grant HD 02764-02; $12,559; for 3 years $38,378

79 THE ROLE OF PROGESTERONE IN FACILITATING OVULATION
McCormack, Charles E. The Chicago Medical School, Chicago, Ill.
DHEW Grant HD 02199-03; $7,372; for 3 years $22,823

80 STEROID METABOLISM IN MALE SEX ORGANS IN VIVO
Eik-Nes, K.B. University of Utah College of Medicine, Salt Lake City, Utah
DHEW Grant HD 03029-06; $83,103; for 10 years $535,088

81 STEROID HORMONE METABOLISM (in vivo and in vitro)
Ryan, Kenneth J. Western Reserve University School of Medicine, Cleveland, Ohio
DHEW Grant HD 03055-07; $69,205; for 11 years $362,589

82 STRUCTURAL AND FUNCTIONAL RELATIONSHIPS IN [STEROID] CELLS (luteal and interstitial of ovary and testis)
Blanchette, Ethel Joan The George Washington University, Washington, D.C.
DHEW Grant HD 03087-01; $28,111; for 3 years . . .

83 DEUTERIUM LABELED STEROIDS FOR STUDY IN HUMANS
Charles, David Boston University School of Medicine, Boston, Mass.
DHEW Grant HD 3494-01; $51,392 for 1 year

84 STEROID 3Beta-01 DEHYDROGENASE AND OVARIAN SECRETION (roles of various hypophyseal and hypothalamic factors in reproductive physiology)
Rubin, Betty L. Mount Sinai School of Medicine, New York, N.Y.
DHEW Grant HD AM 03527-02; . . .

85 TESTOSTERONE AND ESTROGEN METABOLISM IN LIVER DISEASE
Sparagana, Mario Veterans Administration Hospital, Hines, Ill.
VA In-house; . . .

Other factors

86 THE ROLE OF THE THYROID GLAND IN REPRODUCTION (effects on pituitary gonadotropins)
Galton, Valerie Anne Dartmouth Medical School Hanover, N.H.
DHEW Grant HD 02518-02; $9,360; for 3 years $28,565

87 PINEAL-ENDOCRINE RELATIONSHIPS IN RODENTS (influence on reproductive organs of hamsters)
Reiter, Russel J. University of Rochester Medical Center, Rochester, N.Y.
DHEW Grant HD 02937-02; $17,987; for 2 years $49,517

88 ENDOCRINE DETERMINANTS OF NEFA RESPONSE TO OXYTOCIN (influence of gonadal function)
Burt, Richard L. Bowman Gray School of Medicine, Winston-Salem, N.C.
DHEW Grant HD 03210-01; $10,844 for 1 year

89 INTERRELATIONSHIPS OF THYROID GLAND AND GONAD
Holland, James P. Indiana University, Bloomington, Ind.
NSF Grant GB 8241; $10,500(est); for 2 years $21,000

90 METABOLISM OF THYROID HORMONES (variation throughout menstrual cycles)
Kumagai, L.F. Veterans Administration Hospital, Salt Lake City, Utah
VA In-house; . . .; . . .

PREFERTILIZATION

Ovogenesis, gametogenesis and ovulation

91 EMBRYOLOGY OF THE MAMMALIAN OVARY
Blandau, Richard J. University of Washington, Seattle, Wash.
DHEW Grant HD 3475-5; $25,676; for 6 years $148,247

92 STUDY OF GROWTH AND DIFFERENTIATION OF OVARIAN TUMORS
Ely, Charles A. Columbia University, New York, N.Y.
DHEW Grant CA 10012-02; $11,000; for 2 years $23,470

93 MENSTRUATION AND OVULATION IN THE MONKEY
Vollman, Rudolf F. National Institute of Neurological Diseases and stroke, NIH, Bethesda, Md.
DHEW In-house; $5,291; . . .

94 DISTRIBUTION OF FERTILE AND STERILE COITUS BY DAYS OF THE MENSTRUAL CYCLE
Vollman, Rudolf F. National Institute of Neurological Diseases and Stroke, NIH, Bethesda, Md.
DHEW In-house; $4,233; . . .

95 STUDIES ON EARLY REPRODUCTIVE PROCESSES IN MAMMALS (ovarian cell types during fetal and postnatal periods)
Odor, Dorothy Louise Bowman Gray School of Medicine, Winston-Salem, N.C.
DHEW Grant HD 00606-06; $12,198; for 8 years $79,074

96 OOCYTE STRUCTURE AND FUNCTION (yolk formation, membrane function)
Kessel, Richard G. University of Iowa, Iowa City, Iowa
DHEW Grant HD 00699-05; $10,766; for 5 years $98,665

97 FUNCTIONING OF CORPORA LUTEA
Brinkley, Howard J. University of Maryland, College Park, Md.
DHEW Grant HD 00739-04; $28,056; for 6 years $101,682

98 STUDIES ON PHYSIOLOGY OF OVULATION
Lipner, H.J. Florida State University, Tallahassee, Fla.
DHEW Grant HD 00814-04; $25,139; for 5 years $105,143

99 STUDIES OF THE ISOLATED, INTACT OVARIAN FOLLICLE
Grob, Howard S. New York University, New York, N.Y.
DHEW Grant HD 01541-04; $18,593; for 4 years $63,363

100 THE ROLE OF PROGESTERONE IN FACILITATING OVULATION
McCormack, Charles E. The Chicago Medical School, Chicago, Ill.
DHEW Grant HD 02199-03; $7,372; for 3 years $22,823

101 REGULATION OF OVARIAN FUNCTION: LUTEOTROPIC PROCESS
Romanoff, Elijah B. Worcester Foundation for
Experimental Biology, Inc., Shrewsbury, Mass.
DHEW Grant HD 02637-01; $42,835; for 3 years $126,927

102 THE CHEMICAL BASIS OF THE OVULATORY PROCESS (effects of
steroids, vitamins and drugs)
Espey, Lawrence Trinity University, San Antonio, Tex.
DHEW Grant HD 02649-02; $32,486; for 3 years $96,336

103 THE MECHANISM OF LUTEINIZATION IN PRIMATES
Channing, Cornelia P. University of Pittsburgh School
of Medicine, Pittsburgh, Pa.
DHEW Grant HD 03315-01; $22,755 for 1 year

104 PHYSIOLOGY OF OVULATION
Rondell, Paul College of Literature, Science and the
Arts, University of Michigan, Ann Arbor, Mich.
DHEW Grant HD 3470-06; $15,302; for 6 years $100,775

105 MATURATION, METABOLISM AND AGING OF GAMETES (ovogenesis,
spermatogenesis)
Foote, Robert H. New York State College of Agriculture,
Cornell University, Ithaca, N.Y.
DHEW Grant HD 3471-07; $39,067; for 9 years $269,326

106 QUANTITATIVE DEFINITION OF THE HUMAN MENSTRUAL CYCLE
Treloar, Alan E. National Institute of Child Health
and Human Development, NIH, Bethesda, Md.
DHEW In-house; . . .; . . .

107 A QUANTITATIVE DEFINITION OF THE TEMPORAL CHARACTERISTICS
OF THE HUMAN MENSTRUAL CYCLE
Kjelsberg, Marcus University of Minnesota, Minneapolis,
Minn.
DHEW Contract PH 43-65-1014; $29,452; for 6 years $128,820

108 STATISTICAL STUDIES OF REPRODUCTION AMONG ALASKAN NATIVES
Maynard, James E. Artic Health Research Center,
Anchorage, Alaska
DHEW Reimbursable agreement $36,150 for 1 year

109 ALTERATIONS IN FUNCTION AND ULTRASTRUCTURE OF LUTEAL
CELLS IN THE RAT OVARY
Rennels, Edward G. University of Texas Medical School,
San Antonio, Tex.
NSF Grant GB 8129; $11,250(est); for 2 years $22,500

Spermatogenesis and sperm transport

110 PATHWAYS OF METABOLISM IN THE LEYDIG CELLS
Hitzeman, (Sister) Jean Walter Siena Heights College,
Adrian, Mich.
DHEW Grant GM 10484-05; $4,288; for 7 years $50,214

111 MECHANISM OF FLAGELLAR MOVEMENT (of spermatozoa)
Brokaw, Charles J. California Institute of Technology,
Pasadena, Calif.
DHEW Grant GM 14613-02; $58,988; for 3 years $135,746

112 LOCALIZATION OF SPERM ANTIGENS AND ANTIBODIES
Willson, John T. University of Colorado Medical Center,
Denver, Colo.
DHEW Grant HD 00031-05; $14,085; for y6 years $80,072

113 AMINO ACID METABOLISM BY SPERMATOZOA
Flipse, Robert J. The Pennsylvania State University,
University Park, Pa.
DHEW Grant HD 00039-05; $24,640; for 6 years $114,387

114 EFFECT OF GONADOTROPINS ON TESTES CULTURE
Steinberger, E. Albert Einstein Medical Center,
Philadelphia, Pa.
DHEW Grant HD 00399-07; $50,088; for 8 years $300,681

115 CHARACTERISTICS, METABOLISM, FERTILITY OF HUMAN SEMEN
Freund, Matthew J. New York Medical College, New York, N.Y.
DHEW Grant HD 00488-10; $18,407; for 13 years $148,964

116 THE FREEZING AND STORAGE OF HUMAN SEMEN
Freund, Matthew J. New York Medical College, New York, N.Y.
DHEW Grant HD 00538-07; $12,798; for 8 years $94,769

117 CHARACTERIZATION AND PURIFICATION OF SPERM PROTEINS
Hunter, A.G. University of Minnesota, Minneapolis, Minn.
DHEW Grant HD 00816-05; $14,341; for 6 years $72,221

118 PHYSIOLOGY OF THE RABBIT TESTIS AND EPIDIDYMIS
Amann, Rupert P. Pennsylvania State University,
University Park, Pa.
DHEW Grant HD 01356-04; $15,679; for 4 years $67,929

119 BIOCHEMISTRY OF MALE GENITAL TRACT
Williams-Ashman, H.G. The Johns Hopkins University
School of Medicine, Baltimore, Md.
DHEW Grant HD 01453-05; $69,184; for 7 years $484,567

120 FINE STRUCTURE OF THE VERTEBRATE TESTIS
Christensen, Kent Stanford University, Stanford, Calif.
DHEW Grant HD 01512-04; $36,626; for 6 years $154,529

121 METABOLIC STUDIES ON NORMAL AND CRYPTORCHID RAT TESTES
Davis, Joseph R. Loyola University Stritch School of Medicine, Hines, Ill.
DHEW Grant HD 01573-04; $22,242; for 5 years $126,382

122 EFFECT OF CRYPTORCHIDISM AND HORMONES ON THE TESTIS
Kiesewetter, William B. Children's Hospital of Pittsburgh, Pittsburgh, Pa.
DHEW Grant HD 01780-03; $5,519; for 3 years $32,203

123 EXPERIMENTAL STUDIES ON GAMETOGENESIS AND REPRODUCTION
Fawcett, Don W. Harvard Medical School, Boston, Mass.
DHEW Grant HD 02344-03; $28,554; for 5 years $172,644

124 TESTIS FINE STRUCTURE AS RELATED TO DEVELOPMENT
Dietert, Scott E. University of New Mexico, School of Medicine, Albuquerque, N. Mex.
DHEW Grant HD 02494-02; $12,440; for 3 years $37,992

125 BIOCHEMISTRY OF SUPERCOOLED AND FROZEN HUMAN SEMEN
Ackerman, D.R. University of Michigan, Ann Arbor, Mich.
DHEW Grant HD 02592-02; $36,858; for 3 years $103,812

126 EPIDIDYMAL CHOLINESTERASES OF THE RAT
Skrepetos, Chris N. Southern Oregon College, Ashland, Oreg.
DHEW Grant HD 03403-01; $13,593; . . .

127 SEMINAL FACTORS AND TESTIS-ACCESSORY ORGAN FUNCTION
Hopwood, M.L. Colorado State University, Fort Collins Colo.
DHEW Grant HD 03467-09; $22,548; for 9 years $137,697

128 COMPARATIVE STUDY OF SPERMATOGENESIS AMONG VARIOUS PRIMATE SPECIES
Barr, Arnold B. USPHS Hospital, Staten Island, N.Y.
DHEW In-house; $6,250 for 1 year

129 BIOCHEMISTRY OF MAMMALIAN TESTIS DEVELOPMENT AND DIFFERENTIATION
Goldberg, Erwin Northwestern University, Evanston, Ill.
NSF Grant GB 7271; $20,000(est); for 2 years $40,000

130 AN INVESTIGATION OF DIPHOSPHOPYRIDINE NUCLEOTIDE AND TRIPHOSPHOPYRIDINE NUCLEOTIDE DEPENDENT ENZYMES IN DISEASE (testicular (LDH) a measure of fertility)
Opher, Albert W. Veterans Administration Hospital, Fort Howard, Md.
VA In-house; . . .; . . .

131 THE STUDY OF MEIOSIS IN THE MALE DOG (effect of hormonal agents in testis)
Runyan, J.W. Veterans Administration Hospital, Memphis, Tenn.
VA In-house; . . .; . . .

132 PROPERTIES OF LACTATE DEHYDROGENASE ISOENZYME (isolated from testis and spermatozoa)
Opher, Albert W., Jr. Veterans Administration Hospital, Fort Howard, Md.
VA In-house; . . .; . . .

Oviductal, uterine and cervical functions

133 COMPARATIVE UTERINE VASCULATURE
Orsini, Margaret Ward University of Wisconsin, Madison, Wis.
DHEW Grant HD 00267-10; $36,573; for 12 years $273,336

134 NEURO-MUSCULAR MECHANISMS OF THE OVIDUCT
Black, D.L. University of Massachusetts, Amherst, Mass.
DHEW Grant HD 00745-05; $10,705; for 5 years $60,980

135 MEASURE OF CELL PROLIFERATION IN THE FEMALE GENITAL TRACT (mouse) (effects of synthetic estrogens and progestins)
Traurig, Harold H. University of Kentucky Medical School, Lexington, Ky.
DHEW Grant HD 01009-03; $1,796; . . .

136 ULTRASTRUCTURE OF ABNORMAL AND NORMAL ENDOMETRIUM
Lucas, Fred V. University of Missouri, Columbia, Mo.
DHEW Grant HD 01952-02; $29,516; for 3 years $140,023

137 EMBRYOLOGY OF THE OVIDUCT IN RODENTS AND MAN
Blandau, Richard J. University of Washington, Seattle, Wash.
DHEW Grant HD 02519-02; $15,471; for 5 years $73,051

138 GLYCOPROTEINS OF MURINE ENDOMETRIAL SECRETIONS
Bernfeld, Peter Bio-Research Institute, Inc., Cambridge, Mass.
DHEW Grant HD 02629-02; $29,302; for 4 years $103,523

139 HORMONAL CONTROL OF OVIDUCT GROWTH IN RHESUS MONKEY
Brenner, Robert M. Medical Research Foundation of
Oregon, Portland, Oreg.
DHEW Grant HD 02753-02; $17,719; for 3 years $57,486

140 METABOLISM OF UTERINE TISSUES FROM THE RHESUS MONKEY
Beatty, Clarissa H. Medical Research Foundation of
Oregon, Portland, Oreg.
DHEW Grant HD 02837-02; $22,914; for 3 years $67,663

141 SPECIFICITY OF UTERINE RESPONSE TO OVARIAN HORMONES
Barker, Kenneth L. University of Nebraska College
of Medicine, Omaha, Nebr.
DHEW Grant HD 02851-01; $32,183; for 3 years $87,351

142 MUSCLE ACTIVITY OF THE REPRODUCTIVE TRACT IN MAMMALS
(oviductal musculature)
Boling, John L. Linfield Research Institute,
McMinnville, Oreg.
DHEW Grant HD 03013-06; $16,283; . . .

143 REGULATION OF PYRIMIDINE BIOSYNTHESIS IN THE RAT
(in the uterus)
Tremblay, George C. University of Rhode Island,
Kingston, R.I.
DHEW Grant HD 03168-01; $16,738; for 3 years $37,473

144 ESTROGEN ACTION IN RAT UTERUS
Halkerston, Ian D.K. Worcester Foundation for
Experimental Biology, Inc., Shrewsbury, Mass.
DHEW Grant HD 03203-01; $44,540; for 3 years $132,140

145 OVULATION AND GAMETE TRANSPORT IN MAMMALS
Blandau, Richard J. University of Washington, Seattle,
Wash.
DHEW Grant HD 03464-14; $47,411; for 16 years $302,251

146 HISTO-AND BIOCHEMISTRY OF UTERINE GROWTH AND PATHOLOGY
Velardo, Joseph I. Stritch School of Medicine, Hines, Ill.
DHEW Grant HD 03487-01; $40,188; . . .

147 METABOLISM AND CATION TRANSPORT IN MYOMETRIUM
Siegman, Marion J. Jefferson Medical College,
Philadelphia, Pa.
DHEW Grant HD 03622-01; $20,411; . . .

148 PHYSIOLOGY OF THE MAMMALIAN OVIDUCT
Howe, George R. University of Vermont College
of Medicine, Burlington, Vt.
DHEW Grant HD 03657-01; $14,202; for 3 years $32,034

149 PROTEINS IN THE CONTENT OF THE HUMAN UTERINE CERVIX
Schumacher, Gebhard F. University of Chicago Medical School, Chicago, Ill.
DHEW Grant HD 3696-01; $45,048; . . .

150 UTERO-OVARIAN RELATIONSHIPS IN THE SYRIAN HAMSTER (effects of uterus on the corpus luteum)
Fajer, Abram B. University of Maryland, Baltimore, Md.
NSF Grant GB 7066; $13,000(est); for 2 years $26,000

151 PHYSIOLOGY OF THE AVIAN OVIDUCT RELATION TO FUNCTIONAL CAPACITY OF INTRODUCED SPERMATOZOA
Lorenz, F.W. University of California, Davis, Calif.
NSF Grant GB 7171; $29,000(est); for 2 years $58,000

FERTILIZATION

152 STUDIES ON NUTRITION OF THE PREPLACENTAL EMBRYOS OF THE MAMMAL (blastocysts and ova)
Daniel, Joseph C., Jr. Institute for Developmental Biology, University of Colorado, Boulder, Colo.
AEC Contract AT(11-1) 1597; $28,000; for 3 years $81,158

153 ION TRANSPORT DURING DEVELOPMENT OF R PIPIENS EGGS (ovulation, fertilization and first cleavage)
Morrill, Gene A. Albert Einstein College of Medicine, Bronx, N.Y.
DHEW Grant GM 10757-06; $38,770; for 7 years $207,940

154 IONIZING RADIATION ON MAMMALIAN SPERM AND EGGS
Chang, M.C. Worcester Foundation for Experimental Biology, Shrewsbury, Mass.
DHEW Grant GM 14370-02; $34,127; for 7 years $218,126

155 FERTILIZATION: STUDIES OF SPERM-EGG ASSOCIATION
Colwin, Arthur L. Queens College of the City, University of New York, Flushing, N.Y.
DHEW Grant HD 00007-12; $47,203; for 13 years $481,822

156 CELL DIFFERENTIATION STUDY ON EARLY MAMMALIAN EMBRYOS (sperm capacitation, transport, sperm penetration)
Hadek, Robert Loyola University Stritch School of Medicine, Hines, Ill.
DHEW Grant HD 00552-07; $26,268; for 7 years $182,836

157 FERTILIZATION AND EMBRYONIC DIFFERENTIATION IN MAMMALS
Szollosi, Daniel S. University of Washington, Seattle, Wash.
DHEW Grant HD 01110-04; $21,032; for 4 years $52,874

158 HORMONAL REGULATION OF OVIDUCT FLUID COMPOSITION
Hamner, Charles E. University of Virginia, Charlottesville, Va.
DHEW Grant HD 01672-03; $22,633; . . .

159 PHYSIOLOGICAL MECHANISMS OF SPERMATOZOA CAPACITATION
Weinman, Donald E. School of Veterinary Medicine, University of Missouri, Columbia, Mo.
DHEW Grant HD 02156-03; $11,048; for 3 years $45,629

160 SPERM METABOLISM IN THE FAMALE REPRODUCTIVE TRACT
Terner, Charles, Boston University, Boston, Mass.
DHEW Grant HD 02157-02; $18,209; for 3 years $56,339

161 METABOLISM OF SPERM AND THE CUMULUS CELLS OF EGGS
Hathaway, Ralph R. University of Utah, Salt Lake City, Utah
DHEW Grant HD 02648-02; $26,590; for 3 years $78,523

162 THE CAPACITATION OF SPERMATOZOA IN UTERINE FLUID
Hafs, Harold D. Michigan State University, East Lansing, Mich.
DHEW Grant HD 03039-01; $28,048; for 3 years $70,948

163 STUDIES ON THE PHYSIOLOGY OF EARLY PREGNANCY (between fertilization and implantation)
Biggers, John P. The John Hopkins University School of Hygiene and Public Health, Baltimore, Md.
DHEW Grant HD 03077-01; $13,680; for 3 years $35,960

164 PROTEIN AND RNA SYNTHESIS IN MAMMALIAN EMBRYOGENESIS (preimplantation mouse embryo)
Epstein, Charles J. University of California, San Francisco Medical Center, San Francisco, Calif.
DHEW Grant HD 03132-01; $29,519; for 3 years $65,691

165 ELECTRON MICROSCOPIC STUDIES ON MAMMALIAN SPERM
Zamboni, Luciano Harbor General Hospital, Torrance, Calif.
DHEW Grant HD 3341-01; $30,378; for 3 years $88,850

166 DEVELOPMENTAL REGULATION OF MESSENGER RNA FUNCTION (fertilization in sea urchins)
Humphreys, Tom D. University of California, San Diego, La Jolla, Calif.
DHEW Grant HD 03480-03; $33,960; for 3 years $96,660

167 HORMONAL REGULATION OF SPERM IN THE FEMALE TRACT
Hamner, Charles E. University of Virginia Medical College, Charlottesville, Va.
DHEW Grant HD 03516-01; $38,382; . . .

168 STUDIES ON IN VITRO FERTILIZATION OF RODENT EGGS
Yanagimachi, Ryuzo University of Hawaii, School of Medicine, Honolulu, Hawaii
DHEW Grant HD 03402-01; $34,426; . . .

169 PHYSIOLOGY OF MAMMALIAN FERTILIZATION
Chang, M.C. Worcester Foundation for Experimental Biology, Shrewsbury, Mass.
DHEW Grant HD 03472-06; $25,362; for 7 years $157,922

170 INITIATION AND CONTROL OF EMBRYONIC DEVELOPMENT (including fertilization)
Tyler, Albert California Institute of Technology, Pasadena, Calif.
DHEW Grant HD 03476-04; $57,240; for 7 years $399,979

171 SPERM ENZYMES IN FERTILIZATION AND SPERM PHYSIOLOGY
Meizel, Stanley University of California, Davis, Calif.
DHEW Grant HD 03549-01; $25,737; . . .

172 PHYSIOLOGY AND ULTRASTRUCTURE OF SPERM CAPACITATION
Bedford, J. Michael Columbia University, College of Physicians and Surgeons, New York, N.Y.
DHEW Grant HD 03623-01; $25,420; . . .

173 FERTILIZATION MECHANISMS AND GAMETE PHYSIOLOGY IN MARINE INVERTEBRATES (sea urchin)
Metz, Charles B. University of Miami School of Environmental and Planetary Sciences, Coral Gables, Fla.
NSF Grant GB 7806; $54,300; . . .

174 BIOCHEMISTRY OF FERTILIZATION AND EARLY DEVELOPMENT
Epel, David Stanford University, Hopkins Marine Station, Pacific Grove, Calif.
NSF Grant GB 8002; $25,000(est); for 2 years $50,000

175 ROLE OF IONS IN EGG ACTIVATION AT FERTILIZATION
Chambers, Edward L. University of Miami, School of Medicine, Coral Gables, Fla.
NSF Grant GB 8054; $8,650(est); for 2 years $17,300

176 FERTILIZATION STUDIES ON FROG EGGS
Shivers, Charles Alex University of Tennessee, Knoxville, Tenn.
NSF Grant GB 8462; $16,000(est); for 2 years $32,000

NIDATION AND IMPLANTATION

177 ENDOMETRIAL INDUCTION OF ENDOMETRIOSIS
Merrill, James A. University of Oklahoma Medical Center, Oklahoma City, Okla.
DHEW Grant CA 10769-06; $22,485; . . .

178 IMPLANTATION AND LETHALITY IN YELLOW MICE
Eaton, Gordon J. Barrington College, Barrington, R.I.
DHEW Grant HD 00036-05; $14,085; for 5 years $63,465

179 SULPHOMUCOPOLYSACCHARIDES IN THE UTERUS OF PREGNANCY
(including changes in uterus prior to implantation)
Bo, Walter J. Bowman Gray School of Medicine,
Winston-Salem, N.C.
DHEW Grant HD 01357-04; $13,056; for 6 years $66,526

180 EFFECTS OF STEROIDS AND OTHER AGENTS ON EMBRYO GROWTH
(preimplantation)
Staples, Robert E. Worcester Foundation for Experimental
Biology, Inc., Shrewsbury, Mass.
DHEW Grant HD 01785-03; $32,691; for 3 years $95,639

181 UTERINE EOSINPHIL STRUCTURE AND FUNCTION (influence of
estrogen)
Klebanoff, Seymour J. University of Washington,
Seattle, Wash.
DHEW Grant HD 02266-03; $12,337; for 3 years $38,917

182 ULTRASTRUCTURE OF GONADS, TROPHOBLAST, FETAL MEMBRANES
(including studies of the human implantation site)
Larsen, Jorgen Falck University of Aarhus, Aarhus, Denmark
DHEW Grant HD 02493-02; $14,986; for 3 years $47,236

183 LIPID BIOSYNTHESIS OF THE HUMAN REPRODUCTIVE TRACT
Werthessen, Nicholas T. Brown University, Providence, R.I.
DHEW Grant HD 02599-03; $21,692; for 3 years $85,955

184 ENERGY METABOLISM IN PREIMPLANTED MAMMALIAN EMBRYOS (mouse)
Brinster, Ralph L. University of Pennsylvania,
Philadelphia, Pa.
DHEW Grant HD 03071-01; $52,828; . . .

185 DIFFERENTIATION OF TROPHOBLAST AND THE FETAL MEMBRANES
Avery, Gordon B. Research Foundation of Children's
Hospital of the District of Columbia, Washington, D.C.
NSF Grant GB 7076; $19,900; . . .

186 MECHANISMS OF IMPLANTATION
Enders, Allen C. Washington University School of
Medicine, Saint Louis. Mo.
NSF Grant GB 7755; $15,000(est); for 2 years $30,000

OTHER

187 PROGRAMMED ARTIFICIAL INSEMINATIONS IN RHESUS MONKEYS
van Pelt, Lloyd J. Harbor General Hospital, Torrance, Calif.
DHEW Grant FR 00397; $11,343; for 2 years $26,917

188 HUMAN MATURATION UNDER VARIOUS CONDITIONS (menarche)
Zacharias, Leona   Massachusetts General Hospital,
Boston, Mass.
DHEW Grant HD 01582-03; $34,485; for 3 years $96,134

189 FACTORS MAINTAINING BIOCHEMICAL POLYMORPHISMS (differential fertility)
Ashton, Geoffrey C.   College of Health Science, University of Hawaii, Honolulu, Hawaii
DHEW Grant HD 01831-03; $29,124; for 5 years $134,588

190 SEX DETERMINATION AND SEX DIFFERENTIATION (in man)
Sarto, Gloria E.   University of Wisconsin, Madison, Wis.
DHEW Grant HD 03084-01A1; $19,849;   . . .

191 SITE OF ACTION OF CLOMIPHENE (in the induction of ovulation)
Gellert, Ronald J.   Pacific Northwest Research Foundation,
Seattle, Wash.
DHEW Grant HD 03588-01; $23,946;   . . .

192 EMBRYONIC DEVELOPMENT AND SPECIES DISTRIBUTION OF HUMAN TRANSPLANT ANTIGENS (ova and sperm assayed by cytotoxicity and agglutination)
Seigler, H.F.   Veterans Administration Hospital, Durham, N.C.
VA In-house;   . . .;   . . .

FERTILITY REGULATION, TECHNIQUES AND MATERIALS

DEVELOPMENT OF TECHNIQUES AND MATERIALS

193 RESEARCH FOR THE DEVELOPMENT OF A ONCE-A-MONTH CONTRACEPTIVE PILL
Harper, Michael J.K.   Worcester Foundation for Experimental Biology, Inc., Shrewsbury, Mass.
AID Contract AID/csd 2169; $108,500; for 2 years $125,500

194 REVERSIBLE STERILIZATION (vasectomy; tantalum clip; India)
Hulka, J.F.   Carolina Population Center, University of North Carolina, Chapel Hill, N.C.
AID Contract . . .; $100,000(est); for 1-1/2 years $150,000

195 ACTION OF ANTIFERTILITY COMPOUNDS IN THE MOUSE
Brinster, Ralph L.   University of Pennsylvania,
Philadelphia, Pa.
DHEW Grant HD 02315-02; $28,237; for 3 years $79,313

196 TRACE METAL IMBALANCES IN CONTROL OF MALE FERTILITY (cadmium)
Gunn, Samuel, A. University of Miami, Coral Gables, Fla.
DHEW Grant HD 02999-02; $27,839; for 3 years $76,460

197 IMMUNO-CHEMICAL STUDIES OF SEMINAL PLASMA ANTIGENS
Nakabayashi, Nicholas T. University of Michigan,
Ann Arbor, Mich.
DHEW Grant HD 03000-02; $27,115; for 3 years $83,088

198 THE NATURE AND MODE OF ACTION OF MALUCIDIN
Mandl, Ines Columbia University College of Physicians
and Surgeons, New York, N.Y.
DHEW Grant HD 03256-02; $15,416; for 3 years $45,660

199 PLANT FACTORS AFFECTING REPRODUCTION (use of plants as
antifertility agents by Indians of the United States)
Barfknecht, Charles F. University of Iowa,
Iowa City, Iowa
DHEW Grant HD 03289-01; $9,872; . . .

200 IMMUNOLOGICAL FACTORS RELATING TO FERTILITY (immune response
of the female tract to antigens of semen and conceptus)
Menge, Alan C. University of Michigan, Ann Arbor, Mich.
DHEW Grant HD 3463-05; $12,725; for 5 years $54,972

EVALUATION OF TECHNIQUES AND MATERIALS

201 THE EPIDEMIOLOGY OF OUTCOME OF PREGNANCY IN DIVERSE CULTURES
IN SELECTED COUNTRIES (abortion studies)
Harper, Paul A. The Johns Hopkins University School of
Hygiene and Public Health, Baltimore, Md.
AID Contract . . .; $194,500; for 3 years $304,500

202 CONTRACEPTIVE STEROIDS AND MAMMARY CANCER
McCarthy, Jack D. Lovelace Foundation for Medical
Education and Research, Albuquerque, N. Mex.
DHEW Grant CA 08801-02; $20,508; for 2 years $41,457

203 PROGESTINS AND INTERSEX (use of norethindrone in the monkey)
Wharton, Lawrence R. The Johns Hopkins University School
of Medicine, Baltimore, Md.
DHEW Grant HD 00417-07; $4,138; for 9 years $65,721

204 EFFECTS OF STEROID CONTRACEPTION ON THE OVARY
Stern, Elizabeth University of California, Los Angeles,
Calif.
DHEW Grant HD 02537-02; $12,951; for 3 years $34,054

205 STUDY METABOLIC EFFECTS OF ORAL CONTRACEPTIVES
Wynn, Victor St. Mary's Hospital Medical School,
London, England
DHEW Contract PH 43-67-1344; $43,076; for 2 years $86,196

206 STUDY OF CORRELATES OF INTRAUTERINE CONTRACEPTIVE DEVICE
Stallones, Reuel A. University of California, Berkeley,
Calif.
DHEW Contract PH 43-67-1391; $167,000; . . .

207 CONDUCT A CONTRACEPTIVE DRUG STUDY (with an established
"study population" of females ages 20 to 54 years)
. . . Kaiser Foundation Research Institute, Oakland,
Calif.
DHEW Contract PH 43-67-1346; $564,570; . . .

208 HYPOPHYSEAL RESPONSE TO ESTROGENS AND PROGESTINS (oral
contraceptives)
Baker, Burton L. University of Michigan, Ann Arbor, Mich.
DHEW Grant HD 03159-01; $40,061; . . .

209 CHROMOSOME BREAKS IN WOMEN TAKING ORAL CONTRACEPTIVES
Goh, Kang-oo Atomic Energy Commission, Oak Ridge
Associated Universities, Inc., Oak Ridge, Tenn.
DHEW Reimbursable agreement(NICHD) 40-152-68; $59,090;
for 2 years $126,208

210 PHYSIOLOGICAL REACTIONS TO IUDs IN ANIMALS
Hawk, Harold W. Agricultural Research Service,
Beltsville, Md.
DHEW Reimbursable agreement No. 8 00001-04; $80,000;
for 5 years $386,350

211 EFFECTS OF IUD ON OXYTOCIN LEVELS
Chaudury, Ranjit Roy Post-Graduate Institute of
Medical Education and Research, Chandigarh, India
DHEW Contract PH 43-68-53; $17,750; . . .

212 EFFECTS OF STEROID CONTRACEPTION ON DYSPLASIA AND METABOLIC
INDICES
Stern, Elizabeth School of Public Health, University of
California, Los Angeles, Calif.
DHEW Contract PH 43-67-1389-02; $79,979; for 5 years $330,220

213 STUDIES ON HUMAN REPRODUCTION (including the problem of the
carcinogenic potential of oral contraceptive steroids)
Hertz, Roy, Tullner, W.W. and Nixon, W. National Institute
of Child Health and Human Development, NIH, Bethesda, Md.
DHEW In-house; . . .; . . .

214 ELECTROLYTES AND HORMONES IN EDEMA AND HYPERTENSION (including studies on side effects of oral contraceptives)
Laragh, John M. Columbia University College of Physicians and Surgeons, New York, N.Y.
DHEW Grant HE 1275-17; $116,487; for 4 years $447,989

215 DETERMINATION OF NATURAL CLOTTING FACTORS WITH NINHYDRIN (including side effects of oral contraceptives)
Glueck, Helen I. University of Cincinnati College of Medicine, Cincinnati, Ohio
DHEW Grant HE 2904-13; $37,911; for 3 years $108,755

216 ADRENAL STEROID SECRETION RATE STUDIES (including effects of oral contraceptives)
Crane, Milton G. Loma Linda University School of Medicine, Los Angeles, Calif.
DHEW Grant HE 4745-10; $22,225; . . .

217 PATHOGENESIS OF ARTERIOSCLEROSIS (including side effects of oral contraceptives)
Astrup, Tage James F. Mitchell Foundation, Washington, D.C.
DHEW Grant HE 5020-09; $258,119; for 4 years $925,400

218 DETECTION OF INTRAVASCULAR THROMBOSIS (including side effects of oral contraceptives)
Hume, Michael Yale University School of Medicine, New Haven, Conn.
DHEW Grant HE 9095-04; $10,959; . . .

219 PATHOGENESIS OF HEMORRHAGE AND THROMBOSIS (including effects of oral contraceptives)
Hoak, John C. University of Iowa College of Medicine, Iowa City, Iowa
DHEW Grant HE 9862-04; $22,710; for 2 years $45,060

220 EFFECT OF CERTAIN CHEMICALS ON PLASMA RENIN (estrogens, progestational agents and androgens and side effects of oral contraceptives)
Crane, Milton G. Loma Linda University School of Medicine, Los Angeles, Calif.
DHEW Grant HE 11031-03; $20,535; . . .

221 RELATION OF RENIN TO VOLUME, PRESSURE, IONS, STEROIDS (including side effects of oral contraceptives)
Slaton, Paul E., Jr. University of California School of Medicine, San Francisco, Calif.
DHEW Grant HE 11046-03; $14,926; . . .

222 ENDOCRINE AND DRUG EFFECT ON THROMBOSIS (side effects of estrogen and progestational agents)
Ambrus, Julian L. Health Research, Inc., Buffalo, N.Y.
DHEW Grant HE 11591-02; $28,734; for 2 years $52,291

223 EFFECT OF PREGNANCY AND ORAL CONTRACEPTIVES ON UTERINE ARTERIES OF THE GUINEA PIG
Albert, Ernest N. George Washington University School of Medicine, Washington, D.C.
DHEW Grant HE 12557-01; $14,212; . . .

224 ORAL CONTRACEPTION AND U.S. MORTALITY RATES
Markush, Robert E. National Institute of Neurological Diseases and Stroke, NIH, Bethesda, Md.
DHEW In-house; $3,579; . . .

225 PILOT RESEARCH PROJECT FOR INTERNATIONAL DRUG MONITORING (including oral contraceptives)
Royall, B.W. World Health Organization, Geneva, Switzerland
DHEW Grant 67-1G(FDA); $167,000(est); for 2 years $334,000

226 DRUG EFFICACY STUDY (drug interactions and reproductive biology)
Trexler, Duke C. National Academy of Sciences - National Research Council, Washington, D.C.
DHEW Contract 66-197(FDA); $278,000; for 3 years $834,000

227 EPIDEMIOLOGIC STUDY OF THE ASSOCIATION OF THROMBOEMBOLIC PHENOMENA AND ORAL CONTRACEPTIVES ADMINISTRATION
Sartwell, Philip The Johns Hopkins University School of Hygiene and Public Health, Baltimore, Md.
DHEW Contract 67-10(FDA); $176,543; . . .

228 OPERATION OF A REGISTRY OF TISSUE REACTIONS TO DRUGS (including oral contraceptives)
Irey, Nelson S. Universities Associated for Research and Education in Pathology, Inc., Bethesda, Md.
DHEW Contract 67-53(FDA); $29,567(est); for 2 years $59,134

229 DRUG REACTION MONITORING SYSTEM (including oral contraceptives)
Collen, Morris Kaiser Foundation Research Institute, Oakland, Calif.
DHEW Contract 68-38(FDA); $593,477(est); for 2 years $1,187,954

230 EFFECTS OF ORAL CONTRACEPTIVES ON LIPIDS IN MONKEYS AND HUMANS
de Alvarez, Russell Temple University School of Medicine, Philadelphia, Pa.
DHEW Contract 68-40(FDA); $55,819; . . .

231 CARCINOGENIC POTENTIAL OF ORAL CONTRACEPTIVES
Wazeter, Francis X. International Research & Development Corporation, Mattawan, Mich.
DHEW Contract 68-45(FDA); $186,000(est); for 2 years $372,000

232 CARBOHYDRATE METABOLISM IN WOMEN TAKING ORAL CONTRACEPTIVES
Spellacy, William N. University of Miami School of Medicine Miami, Fla.
DHEW Contract 68-48(FDA); $46,171; . . .

233 EFFECT OF ORAL CONTRACEPTIVES ON BODY WATER AND ELECTROLYTES
Blahd, William H. Veterans Administration Center, Los Angeles, Calif.
VA In-house; . . .; . . .

234 THE USE OF THE FREE T-4 INDEX TO EVALUATE THYROID FUNCTION IN VARIOUS STATES CAUSING NON-THYROIDAL PBI ABERRATIONS (effect of birth control drugs)
Glasgow, J.L. Veterans Administration Center, Jackson, Miss.
VA In-house; . . .; . . .

INFERTILITY

235 CYTOGENETICS OF REPRODUCTIVE FAILURE (includes study of substances with activity on chromosomes)
Stenchever, Morton A. Western Reserve University School of Medicine, Cleveland, Ohio
DHEW Grant HD 01665-03; $30,061; for 3 years $102,651

236 STUDIES OF MAMMALIAN MITOTIC AND MEIOTIC CHROMOSOMES (of spermatogenesis and oogenesis in the hamster and in man)
Clendenin, Thomas M. Woman's Medical College of Pennsylvania, Philadelphia, Pa.
DHEW Grant HD 01880-03; $11,574; for 3 years $29,715

237 CYTOGENETICS OF HABITUAL ABORTORS
Waxman, Sarrell H. University of Hawaii, Honolulu, Hawaii
DHEW Grant HD 02159-03; $21,275; for 3 years $62,503

238 HUMAN SEMEN ANTIBODIES CAUSING INFERTILITY
Quinlivan, W. Leslie University of California, College of Medicine, Los Angeles, Calif.
DHEW Grant HD 02322-04; $18,952; for 5 years $74,243

239 CHROMOSOME-BIOCHEMICAL STUDIES: IN HUMAN ENDOMETRIA
Hughes, Edward The Research Foundation of State University of New York, Albany, N.Y.
DHEW Grant HD 02523-02; $24,569; for 2 years $48,458

240 SUBMICROSCOPIC BASES OF MALE INFERTILITY (includes
development of flagellum during spermiogenesis)
Nelson, Leonard Toledo State College of Medicine,
Toledo, Ohio
DHEW Grant HD 03266-01; $93,475; for 11 years $261,707

241 STEROIDS IN REPRODUCTIVE PHYSIOLOGY (in infertile patients)
Herrmann, Walter L. University of Washington School of
Medicine, Seattle, Wash.
DHEW Grant HD AM 03286-07; $53,863; for 9 years $360,187

242 INHERITED CYTOGENETIC DEFECTS IN SPONTANEOUS ABORTION
Byrd, Jerome R. Medical College of Georgia, Agusta, Ga.
DHEW Grant HD 03324-01; $25,279; for 3 years $79,807

243 THE ROLE OF VIRUSES IN CHROMOSOME ABNORMALITIES
Singer, J.D. and Kolodny, R.L. National Institute of
Child Health and Human Development, NIH, Bethesda, Md.
DHEW In-house; . . .; . . .

244 CARDIOVASCULAR AND RELATED DISEASE (a small portion of this
project concerns the relationships between blood groups and
fertility)
Francis, Thomas Jr. University of Michigan School of
Public Health, Ann Arbor, Mich.
DHEW Grant HEP 9814-04; $615,092; for 2 years $1,182,294

245 CONDUCT AN ABORTION STUDY (role of virus infection)
. . . Kaiser Foundation Research Institute, Oakland, Calif
DHEW Contract PH 43-66-519; $18,524; for 2 years $33,350

246 DISTRIBUTION OF ABORTIONS BY CHRONOLOGICAL AND GYNECOLOGIC
AGE OF THE GRAVIDA
Vollman, Rudolf F. National Institute of Neurological
Diseases and Stroke, NIH, Bethesda, Md.
DHEW In-house; $4,233; . . .

247 DEVELOPMENT AND EVALUATION OF AN INDEX OF REPRODUCTIVE
PERFORMANCE FOR THE PURPOSE OF IDENTIFYING HIGH-RISK
PREGNANCY SUSPECTS
Bartlett, G.S. National Institute of Neurological
Diseases and Stroke, NIH, Bethesda, Md.
DHEW In-house; . . .; . . .

248 GERM CELL CHROMOSOMAL STRUCTURE IN SUBJECTS WITH VARICOCELE
AND INFERTILITY (impaired spermatogenesis)
Swersie, Stephen P. USPHS Hospital, Boston, Mass.
DHEW In-house; $8,100; . . .

249 THE IMPORTANCE OF IMMUNOGENETIC FACTORS IN PROBLEMS OF
LOWERED FERTILITY IN CATTLE
Kiddy, Charles A. USDA Agricultural Research Service,
Beltsville, Md.
USDA In-house; $15,700; for 5 years $50,000

DESCRIPTION OF POPULATION SIZE DISTRIBUTION, CHARACTERISTICS AND TRENDS

DATA GENERATION AND ANALYSIS (INCLUDING SURVEY METHODOLOGY)

250 INTERNATIONAL DEMOGRAPHIC STATISTICS CENTER (development of an international demographic statistics system and the processes by which statistics may be evaluated, stored and retrieved; statistical analysis)
. . . U.S. Bureau of the Census, Washington, D.C.
AID Reimbursable agreement 7703; $443,000; . . .

251 CENSUS OF POPULATION (basic statistics on the number, distribution and characteristics of the population of the U.S. and its component areas)
. . . U.S. Bureau of the Census, Washington, D.C.
Commerce Other 1/ . . .; $15,618,000 (for 1970 Census of Population and Housing); est. total cost $210 million

252 POPULATION ESTIMATES AND PROJECTIONS, INCLUDING ADMINISTRATIVE RECORDS (postcensal estimates of U.S. population, its composition and distribution; analysis and evaluation; includes work done jointly for local-area population estimates and income distributions)
. . . U.S. Bureau of the Census, Washington, D.C.
Commerce Other 1/ $639,000; . . .

253 SELECTED REIMBURSABLE DEMOGRAPHIC SURVEYS: NATIONAL LONGITUDINAL SURVEYS (labor market behavior in relation to economic, social and psychological characteristics); special analyses of marriage and fertility histories from 1967 SURVEY OF ECONOMIC OPPORTUNITY
. . . U.S. Bureau of the Census, Washington, D.C.
Labor/DHEW Reimbursable agreements. . .; $1,079.000; . . .

254 CURRENT POPULATIONS SURVEY, INCLUDING POPULATION TRENDS AND SPECIAL REPORTS (household sample survey of U.S. population, estimates of employment, unemployment and other characteristics of labor force, income, migration, family and other characteristics of the population)
. . . U.S. Bureau of the Census, Washington, D.C.
Labor/Commerce Reimbursable agreement/Other 1/
$4,928,000; . . .

255 FOREIGN DEMOGRAPHIC ANALYSIS
. . . U.S. Bureau of the Census, Washington, D.C.
Various Govt. Agencies Reimbursable agreement . . .;
$946,000; . . .

256 COLLECTION AND ANALYSIS OF NATIONAL NATALITY STATISTICS
Patterson, John   National Center for Health Statistics,
Washington, D.C.
DHEW In-house; $390,000;   . . .

257 THE DEMOGRAPHIC TRANSITION IN A CHANGING SOCIETY
(high to low birth rates in Yugoslavia)
Breznik, Dusan   Demographic Research Center,   . . .,
Yugoslavia
DHEW P.L.-480 NCHS-Y4; $80,450; for 4 years $303,321

258 COLLECTION AND ANALYSIS OF NATIONAL MORTALITY STATISTICS
Israel, Robert A.   National Center for Health Statistics
Washington, D.C.
DHEW In-house; $760,000;   . . .

259 COLLECTION AND ANALYSES OF NATIONAL MARRIAGE AND DIVORCE
STATISTICS
Hetzel, Alice   National Center for Health Statistics,
Washington, D.C.
DHEW In-house; $240,000,   . . .

260 SURVEY OF RECENTLY MARRIED PERSONS IN NORTH CAROLINA
(family planning, migration, health)
Wells, H. Bradley   University of North Carolina,
Chapel Hill, N.C.
Sirken, Monroe G.   National Center for Health Statistics,
Washington, D.C.
DHEW Contract PH 43-67-764/In-house; $40,000; for 3 years
$75,000

261 EVALUATION OF FERTILITY STATISTICS DERIVED RETROSPECTIVELY
FROM SINGLE-TIME HOUSEHOLD SAMPLE SURVEYS
Sirken, Monroe G.   National Center for Health Statistics,
Washington, D.C.
DHEW In-house; $7,500; for 4 years $25,000

262 NATIONAL DEMOGRAPHIC RESEARCH (to permit calculation
of fertility rate)
Tarifa, Chadli   Department of Demographic Statistics,
Tunis, Tunisia
DHEW P.L.-480 07-651-2; $23,048; for 2 years $93,810

263 SURVEY METHODOLOGY FOR MEASUREMENT OF FERTILITY
George, A.   Department of Statistics, University of
Kerala, Trivandrum, India
DHEW P.L.-480 01-652-02; $9,050; for 4 years $36,200

264 EVALUATION OF SAMPLE REGISTRATION PROBLEMS AT DISTRICT LEVEL (for family planning activities)
Sekhar, A. Chandra Office of Registrar General, New Delhi, India
DHEW P.L.-480 01-655-2; $12,563; for 6 years $57,930

265 HOUSEHOLD SAMPLE SURVEYS WITH MULTIPLICITY (survey design in which sample household reports vital events that occurred to relatives that live in other households in addition to reporting events that occurred in sample household)
Sirken, Monroe G. National Center for Health Statistics, Washington, D.C. and Survey Research Center, University of California, Los Angeles, Calif.
DHEW Contract PH 43-68-436/In-house; $40,000; . . .

266 EFFECT ON POPULATION ESTIMATES OF INCONSISTENT AGE REPORTING ON DEATH CERTIFICATES AND CENSUS REPORTS
Sirken, Monroe G. National Center for Health Statistics, Washington, D.C.
DHEW In-house . . .; $7,500; . . .

267 ANALYTICAL STUDY OF FERTILITY INDICATORS
Srinivasan, K. Institute of Rural Health and Family Planning Gandhigram, Madras State, India
DHEW P.L.-480 NCHS-IND-3; . . .; for 3 years $24,037

268 UTILIZATION OF HEALTH RESOURCES BY WELFARE RECIPIENTS (fertility, illegitimacy and birth control)
Podell, Lawrence Research Foundation of the City University of New York, New York, N.Y.
DHEW Grant CH 00122 and CH 00369; . . .; for 4 years $495,000

269 POPULATION CHARACTERISTICS AND POVERTY STATUS
Orshansky, Mollie Social Security Administration, Washington, D.C.
DHEW In-house; $25,000; . . .

270 NEW HAVEN CENSUS USE STUDY
Smith, Caby C. U.S. Bureau of the Census, Washington, D.C.
Various Govt. Agencies Reimbursable agreements; $485,000; for 3 years $1,500,000

271 STUDY AND REPORTS OF "DEPARTMENT OF MUNICIPAL SERVICES" AND DEMOGRAPHIC INFORMATIVE SYSTEMS
Michael, Richard M. Department of Housing & Urban Development, Washington, D.C. and Rand Corp., Santa Monica, Calif.
HUD Contract H-1056; $359,000; . . .

272 POPULATION SURVEY OF SAN FELIPE PUEBLO (100% household survey)
San Felipe Tribal Council c/o Southern Pueblos Agency
Albuquerque, N. Mex.
Interior Contract Allot 1196; $4,000; . . .

273 POPULATION SURVEY OF HOPI TRIBE (100% household survey)
Hopi Tribal Council, Keams Canyon, Ariz.
Interior Contract Allot 1502; $11,100; . . .

274 DIVISIONS INVOLVED IN RESEARCH: LABOR FORCE STUDIES, EMPLOYMENT AND UNEMPLOYMENT ANALYSIS, URBAN EMPLOYMENT SURVEYS, INDUSTRY EMPLOYMENT STATISTICS AND MANPOWER AND OCCUPATIONAL OUTLOOK
Goldstein, Harold U.S. Department of Labor,
Washington, D.C.
Labor In-house; $9.6 million; . . .

275 SURVEY OF ECONOMIC OPPORTUNITY (household sample of 30,000 with 12,000 in low-income areas)
Miller, Herman U.S. Bureau of the Census, Washington, D.C.
OEO Reimbursable agreement; $214,000; for 5 years $2,500,000

276 POPULATION TREND IN CONNECTICUT
Stockwell, E.G. Rural Sociology Department, University of Connecticut, Storrs, Conn.
USDA Other 2/ Conn 216; $8,025; for 16 years $93,996

277 POPULATION CHANGES IN RURAL AREAS
Campbell, Rex R. Department of Rural Sociology, University of Missouri, Columbia, Mo.
USDA Other 2/ Mo 325; $21,500; for 5 years $75,432

278 COMMUNITY ADJUSTMENT TO SOCIAL CHANGE IN THE NORTH CENTRAL REGION
Doerflinger, J.A. Agricultural Economics and Rural Sociology, Iowa State University, Ames, Iowa
USDA Other 2/ Iowa 1612; $3,000; for 5 years $7,315

279 FARM POPULATION ESTIMATES (number, characteristics and migration of farm population)
Beale, Calvin L. Economic Research Service, U.S. Department of Agriculture, Washington, D.C.
USDA In-house/Commerce Reimbursable agreement;$35,000; . . .

METHODS OF MEASUREMENT AND ANALYSIS

280 HUMAN REPRODUCTION STUDIES AS A STOCHASTIC PROCESS
Sheps, Mindel C. Columbia University School of Public Health, New York, N.Y.
DHEW Grant HD 02292-04; $25,964; for 4 years $96,561

281 RANDOMIZED RESPONSE EXPERIMENTS ON ABORTIONS (incidence of induced abortion in North Carolina)
Abernathy, James R. School of Public Health, University of North Carolina, Chapel Hill, N.C.
DHEW Grant HD 03461-01; $79,931; for 2 years $85,831

282 MEASUREMENT METHODS FOR POPULATION CHANGES
Linder, Forrest E. School of Public Health, University of North Carolina, Chapel Hill, N.C.
DHEW Grant HD 03441-01; $138,805; for 3 years $373,517

283 COMPUTER UTILIZATION IN POPULATION AND HEALTH STUDIES
Burnight, Robert G. Brown University, Providence, R.I.
DHEW Grant MH 06127-05; $56,551; . . .

284 CENSUS APPLICATIONS PROJECT (for evaluation of remote sensor return)
Gerlach, Arch C. U.S. Geological Survey, Washington, D.C.
NASA Contract . . .; . . .; . . .

285 SIMULATION OF POPULATION DENSITIES
Nunley, Robert E. University of Kansas, Lawrence, Kan.
NSF Grant GS 1841; $45,500(est); for 2 years $91,000

DETERMINANTS OF POPULATION SIZE, DISTRIBUTION, CHARACTERISTICS AND TRENDS

FAMILY SIZE, COMPOSITION AND ROLES

286 FAMILY SIZE, CHILD SPACING AND SOCIO-ECONOMIC STATUS
Freedman, Ronald University of Michigan, Ann Arbor, Mich.
DHEW Grant 312(SSA); $40,080; for 3 years $119,412

287 FAMILY STRUCTURE AND MOBILITY PROCESSES
Goode, William Bureau of Applied Social Research, Columbia University, New York, N.Y.
DHEW Grant MH 11389-01; $11,749; . . .

288 CHANGING PATTERNS OF FAMILY LIFE (real and ideal family roles)
Prothro, Edwin T. American University of Beirut, Beirut, Lebanon
DHEW Grant MH 11574-01; $26,659; . . .

289 CHANGE AND FAMILY ORGANIZATION (matriarchal patterns, Indianapolis Negroes)
Scanzoni, John H. Indiana University Foundation, Bloomington, Ind.
DHEW Grant MH 12734-01; $12,814; for 2 years $25,627

290 A STUDY OF FAMILY STRUCTURE AND THE FEMININE ROLE
Kammeyer, Kenneth C. University of California, Davis, Calif.
DHEW Grant MH 12736-01; $11,671; . . .

291 SUPPORT FOR FIELD STUDY BY NIMH FELLOW (attitudes toward family structure in Taiwan)
Spiro, Melford University of Chicago Graduate School, Chicago, Ill.
DHEW Grant MH 13526-01; $3,812; . . .

292 ROLE FAILURE AND SATISFACTION IN AREAS OF MARRIAGE
Burr, Wesley R. Department of Sociology, Portland State College, Portland, Oreg.
DHEW Grant MH 16092-01; $4,653; . . .

293 PSYCHOSOCIAL DYNAMICS - CHILD BEARING AND FAMILY PLANNING
Bernard, Viola W. Columbia University, New York, N.Y.
DHEW Grant MH 16949-01; $52,217(est); for 2 years $104,434

294 DEVELOPMENTAL PATTERNS IN THE YOUNG FAMILY
Ryder, Robert G. . . .
DHEW In-house; . . .; . . .

295 COMPARATIVE DEMOGRAPHIC RESEARCH (family structure and fertility, role of extended family patterns)
Burch, Thomas K. Georgetown University, Washington, D.C.
NSF Grant GS 2294; $34,550(est); for 2 years $69,100

296 MARITAL STABILITY AND FAMILY STRUCTURE: A NEGRO-WHITE COMPARISON
Lefcowitz, Myron J. Institute for Research on Poverty, University of Wisconsin, Madison, Wis.
OEO Grant 9618; . . .; . . .

297 FACTORS AFFECTING AGE AT MARRIAGE IN RURAL NEBRASKA
Gingles, Ruby Home Economics Department, Nebraska State University, Lincoln, Nebr.
USDA Other 2/ Nebr 93-6; . . .; . . .

298 CHARACTERISTICS AND FUNCTIONING OF THE RURAL FAMILY IN KENTUCKY
Brown, James S. Rural Sociology Department, University of Kentucky, Lexington, Ky.
USDA Other 2/ Ky 803; $14,504; for 5 years $72,506

KNOWLEDGE, ATTITUDES AND PRACTICES WITH REGARD TO FERTILITY

299 GRANT FOR THE PLANNING STUDIES UNIT, UNIVERSITY OF HAWAII
(emphasis on motivational factors)
Lee, Richard K.C. University of Hawaii, School of Public Health, Honolulu, Hawaii
AID Grant AID/csd 1439; $108,519(est); for 3 years $325,556

300 FERTILITY AND FAMILY PLANNING IN TAIWAN
Freedman, Ronald University of Michigan, Ann Arbor, Mich.
DHEW Grant HD 03002-01; $94,608; for 4 years $335,333

301 DEVELOPMENT OF MEASURES OF UNWANTED CHILD BEARING
National Center for Health Statistics, Washington, D.C.
DHEW Reimbursable agreement (NICHD); $74,420; . . .

302 FAMILY PLANNING AND BIRTH CONTROL AMONG POVERTY-LEVEL NEGRO FAMILIES
Vincent, Clark E. Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, N.C.
DHEW Grant 283; $13,318; for 4 years $105,726

303 EXPLORATORY STUDIES OF DIFFERENTIAL FERTILITY
(preliminary to a large-scale longitudinal study of Negro fertility)
Zelnik, Melvin The Johns Hopkins University, Baltimore, Md.
DHEW Grant CRD 470; $57,102; for 19 months $78,218

304 FAMILY PLANNING AND BIRTH CONTROL AMONG POVERTY-LEVEL NEGRO FEMALES
Vincent, Clark I. Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, N.C.
DHEW Grant CRD 283; $13,318; for 4 years $117,226

305 DETERMINANTS OF INVOLVEMENT OF THE POOR IN PUBLIC FAMILY PLANNING PROGRAMS
Siegel, Earl Carolina Population Center, University of North Carolina, Chapel Hill, N.C.
OEO Contract B89-4538; $51,000; . . .

BIOMEDICAL AND HEALTH

306 INDIVIDUAL DIFFERENCES IN SURVIVAL AND REPRODUCTION AMONG OLD COLONY MENNONITES IN MEXICO
Allen, Gordon National Institute of Mental Health, NIH, Bethesda, Md.
DHEW In-house; . . .; . . .

307 POPULATION RESEARCH BY COMPUTER SIMULATION (interaction of economic, social factors, and public health action programs)
Agarwala, S.N. Demographic Training and Research Center, Chembur, Bombay, India
DHEW P.L.-480 01-651-2; $24,236; for 4 years $96,562

308 LONGITUDINAL STUDY OF OUTCOME AND SURVIVAL OF A BIRTH COHORT
Ghosh, Shanti Safdarjang Hospital, . . ., India
DHEW P.L.-480 01-658-2; $27,960; for 6 years $90,026

309 FACTORS IN INFANT MORTALITY (relation to fertility)
Vukmanovic, Cedomir Federal Institute of Public Health, Belgrade, Yugoslavia
DHEW P.L.-480 02-651-2; $11,573; for 5 years $319,950

SOCIO-ECONOMIC

310 L.A. CENTER FOR STUDY OF POPULATION AND FAMILY (CELAP)
Vekemans, Roger Latin American Center for Studies of Population and Family (CELAP), Santiago, de Chile
AID Grant-Contract AID/la-266; $200,000; for 4 years $760,000

311 CERTAIN SOCIO-CULTURAL PARAMETERS IN RELATION TO PREGNANCY OUTCOME (for both gravida and father of child)
Shakhashiri, Z.A. National Institute of Neurological Diseases and Stroke, NIH, Bethesda, Md.
DHEW In-house ; . . .; . . .

312 FURTHER INVESTIGATION OF THE SOCIO-ECONOMIC INDEX AS A DESCRIPTIVE AND PREDICTIVE
Bartlett, G.S. National Institute of Neurological Diseases and Stroke, NIH, Bethesda, Md.
DHEW In-house ; . . .; . . .

313 EVALUATION OF SERVICE TO UNWED MOTHERS
Power, Edward V. Catholic Family Services, Inc., Hartford, Conn.
DHEW Grant MH 14922-03; $6,824(est); for 4 years $27,295

314 SOCIO-CULTURAL CONTEXT OF PRE-MARITAL CHILD BIRTH (American females under the age of 20 years)
Schneider, David M. and Smith, R.T. University of Chicago, Chicago, Ill.
DHEW Grant R-328(C1); $71,100; for 2 years $104,454

315 STUDY OF RECIDIVISM OF UNMARRIED PREGNANT GIRLS
(Negro girls under 18 years of age in San Francisco)
Wallace, Helen M. School of Public Health, University of California, Berkeley, Calif.
DHEW Grant PH 203; $73,078; . . .

316 ATLANTA ADOLESCENT PREGNANCY PROGRAM (medical, educational, contraceptive usage, recidivism, psychological testing)
Walters, James L., Jr. Department of Gynecology and Obstetrics, Emory University School of Medicine, Atlanta, Ga.
DHEW Grant 214-1; $253,178; . . .

317 (Socioeconomic factors and family growth)
Freedman, Ronald University of Michigan, Ann Arbor, Mich.
DHEW Grant CRD 312; $34,000(est); for 3.5 years $119,412

318 FAMILY PLANNING AND THE STATUS OF WOMEN IN THE UNITED STATES
Ridley, Jeanne Clair International Institute for the Study of Human Reproduction, Columbia University, New York, N.Y.
DHEW Contract NIH-69-67; $17,200 for 1/2 year

319 THE SOCIAL AND ECONOMIC VARIATIONS IN MARRIAGE AND FERTILITY HISTORIES, 1967
Glick, Paul C. Population Division, U.S. Bureau of the Census, Washington, D.C.
DHEW Reimbursable agreement No. 8-12; $39,000; . . .

320 CORRELATES OF AGE AT MARRIAGE AND FERTILITY: 1967
Glick, Paul C. U.S.Bureau of the Census, Washington, D.C.
DHEW Reimbursable agreement No. 8-13; $20,000; . . .

321 COMPARATIVE STUDIES IN USSR AND EAST EUROPEAN DEMOGRAPHY
Davis, Kingsley University of California, Berkeley, Calif.
NSF GS 2020; $28,550(est); for 2 years $57,100

322 DEMOGRAPHIC TRANSITION (decline of fertility in 700 provinces in Europe)
Coale, Ansley J. Princeton University, Princeton, N.J.
NSF Grant GS 2216; $83,400; . . .

323 ECONOMIC DETERMINANTS OF FERTILITY
Cain, Glen G. Institute for Research on Poverty, University of Wisconsin, Madison, Wis.
OEO Grant 9618; . . .; . . .

324 THE SOCIAL AND ECONOMIC CONSEQUENCES OF CHANGES IN EMPLOYMENT UPON SELECTED NORTHEASTERN COMMUNITIES
Jeffrey, A.D. Department of Economics, University of Rhode Island, Kingston, R.I.
USDA Other 2/ RI 127; $3,000; for 4 years $13,966

325 COMMUNITY ADJUSTMENT TO SOCIAL CHANGE IN THE NORTH CENTRAL REGION
Dimit, R.M. Rural Sociology Department, South Dakota State University, Brookings, S. Dak.
USDA Other [2] S. Dak 449; $14,795; for 5 years $29,217

MIGRATION AND URBANIZATION

326 PROSPECTIVE FERTILITY OF RURAL-URBAN MIGRANTS (Puerto Rico)
Mascisco, John J. Center for Population Research Georgetown University, Washington, D.C.
DHEW Grant CH 00272; $2,500; for 2 years $25,000

327 LOCAL COMMUNITY STRUCTURE AND CIVIC PARTICIPATION (demographic and social trends, migration patterns)
Hillmani, Arthur National Fed. of Settlements and Neighborhood Centers, Inc., New York, N.Y.
HUD Contract H-898; . . .; . . .

328 STUDY ON RESIDENTIAL INSECURITY (300 personal interviews, Roxburg, Mass.; causes and effects of frequent residence changes)
Silcott, George T. DSW, Inc., New York, N.Y.
HUD Contract H-959; $2,900; for 2 years $5,800

329 URBAN MANPOWER STUDY (occupations, present and future, related to planning and administration of public sector urban programs)
Becker, P.G. Bureau of Labor Statistics, Department of Labor, Washington, D.C.
HUD Reimbursable agreement lAA H-8-68; $46,667(est); for 3 years $140,000

330 INDICATORS OF METROPOLITAN GROWTH AND DEVELOPMENT (demographic trends)
. . .
HUD In-house; $25,500; . . .

331 CORRELATES OF MIGRATION AND URBANIZATION
Thomas, Dorothy S. Population Studies Center, University of Pennsylvania, Philadelphia, Pa.
NSF Grant GS 2209; $50,100(est); for 15 years . . .

332 SOCIO-ECONOMIC DIFFERENTIATION OF POPULATION IN URBANIZED AREAS
Smith, Joel Duke University, Durham, N.C.
NSF Grant GS 1077; $25,300; for 3 years $75,900

333 EDUCATIONAL LEVEL OF NEGRO MIGRANTS AND NON-MIGRANTS
Price, Daniel O. University of Texas, Austin, Tex.
NSF Grant GS 1431; $7,600(est); for 3 years $22,800

334 INTERNAL MIGRATION IN MEXICO
Ball, John M. University of Georgia, Athens, Ga.
NSF Grant GS 1697; $20,000(est); for 26 months $41,900

335 POPULATION CHANGES IN SMALL TOWNS
Fuguitt, Glenn V. University of Wisconsin, Madison, Wis.
NSF Grant GS 1717; $14,800; . . .

336 STABILITY OF INTERREGIONAL MIGRATION FLOWS (in Belgium)
Wolpert, Julian University of Pennsylvania,
Philadelphia, Pa.
NSF Grant GS 1809; $21,000; . . .

337 A STUDY OF DEMOGRAPHIC AND SOCIAL DETERMINANTS OF FUNCTIONAL
ACHIEVEMENT IN A NEGRO POPULATION (migration)
Fried, Marc Institute of Human Sciences, Boston College,
Chestnut Hill, Mass.
OEO Contract 4279; $215,000; for 3 years $389,000

338 A STUDY OF THE ECONOMIC CONSEQUENCES OF RURAL TO URBAN
MIGRATION
Price, Daniel O. Tracor, Inc., Austin, Tex.
OEO Contract 4594; $185,000(est); for 18 months $278,662

339 SOCIO-ECONOMIC MOBILITY AMONG URBAN NEGROES (use of a
1/1000 sample from the 1960 Decennial Census to examine
the relationship between immigrant status and economic
well-being)
Masters, Stanley H. Rutgers University, New Brunswick, N.J.
OEO Contract . . .; $27,462 for 1 year

340 POPULATION CHANGES IN ILLINOIS 1950 TO 1960 AND THEIR
IMPACTS UPON RURAL COMMUNITIES AND SYSTEMS OF SOCIAL
ORGANIZATION (natural increase and migration)
Folse, C.L. Agricultural Economics Department,
University of Illinois, Urbana, Ill.
USDA Other 2/ Ill 05-394; $1,100; for 5 years $32,938

341 FACTORS ASSOCIATED WITH THE LEVEL OF LIVING AND ASPIRATIONS
OF FARM FAMILIES IN THE NORTHERN FORESTED AREAS OF MINNESOTA
Donahue, George A. Department of Rural Sociology, University
of Minnesota, St. Paul, Minn.
USDA Other 2/ Minn 27-14; $9,612; for 13 years $110,095

342 CHARACTERISTICS OF MINNESOTA'S POPULATION (rural farm, rural non-farm and urban)
Donahue, George A. and Ramsey, C.E. Rural Sociology Department, University of Minnesota, St. Paul, Minn.
USDA Other 2/ Minn. 27-15; $6,849; for 3 years $42,792

343 THE IMPACT OF POPULATION CHANGES UPON RURAL COMMUNITIES IN SOUTH DAKOTA
Riley, Marvin P. Rural Sociology Department, South Dakota State University, Brookings, S. Dak.
USDA Other 2/ S. Dak 222; $4,900; for 5 years $36,757

344 COMMUNITY ADJUSTMENT TO SOCIAL CHANGE IN THE NORTH CENTRAL REGION
Fuguitt, G.V. and Bultena, G.L. Rural Sociology Department, University of Wisconsin, Madison, Wis.
USDA Other 2/ Wis 1326; $8,050; for 5 years $28,676

345 FAMILY STRUCTURE AS RELATED TO MIGRATION, OCCUPATION, AND SOCIAL PARTICIPATION (interviews with 1,200 white women)
Wilkening, E.A. Rural Sociology Department, University of Wisconsin, Madison, Wis.
USDA Other 2/ Wis 1550; $7,200; . . .

346 FACTORS ASSOCIATED WITH THE MIGRATION OF RURAL PEOPLE FROM SELECTED MISSISSIPPI COUNTIES
Boykin, W.C. and Jackson, W.F. Alcorn A&M College, Lorman, Miss.
USDA . . . 1968-1; $6,000; . . .

347 MIGRATION PATTERNS OF THE TENNESSEE POPULATION
Leuthold, F.O. Agricultural Economics and Rural Sociology Department, University of Tennessee, Knoxville, Tenn.
USDA Other 2/ Tenn 274; $15,000; for 40 months $17,000

348 FACTORS AFFECTING MIGRATION INTO THE OZARKS OF MISSOURI AND ADJOINING STATES
Bender, Lloyd D. Department of Agricultural Economics, University of Missouri, Columbia, Mo. and Beale, Calvin L. Department of Agriculture, Washington, D.C.
USDA In-house; $15,000; for 3 years . . .

POPULATION POLICY AND IMPLEMENTATION

349 HUMAN FERTILITY PATTERNS: DETERMINANTS & CONSEQUENCES (of current programs in health, education, public housing, etc.)
Schultz, T. Paul, Jr. The Rand Corporation, Santa Monica, Calif.
AID Contract AID/csd 2151; $71,500(est); for 2 years $142,925

CONSEQUENCES OF POPULATION SIZE, DISTRIBUTION, CHARACTERISTICS AND TRENDS

ATTITUDES AND PRACTICES WITH REGARD TO FERTILITY

350 STUDY OF FAMILY SIZE WITH RESPECT TO RH BLOOD TYPE AND OTHER VARIABLES (in a population practicing birth control)
Naylor, A. F. National Institute of Neurological Diseases and Stroke, NIH, Bethesda, Md.
DHEW In-house; . . .

351 AGE AT MARRIAGE AS A VARIABLE IN EDUCATIONAL ACHIEVEMENTS, OCCUPATIONAL PLACEMENT, AND FAMILY LIFE OF RURAL AND URBAN YOUTH
Nye, F. Ivan Rural Sociology Department, Washington State University, Pullman, Wash.
USDA Other 1/ Wash 1745; $4,370; for 5 years $52,010

BIOMEDICAL AND HEALTH

352 STUDIES ON HUMAN POPULATION GENETICS
Neel, James V. Department of Human Genetics, University of Michigan, Ann Arbor, Mich.
AEC Contract AT(11-1) 1552; $358,306; for 4 years $1,255,270

353 MUTATION RATES AND MUTATION LOADS IN MAN (Italian consanguinity data)
Cavalli-Sforza, L.L. Institute of Genetics, University of Pavia, Pavia, Italy
AEC Contract AT(30-1) 2280; $24,706; for 11 years $313,811

354 RESEARCH ON HUMAN GENETICS IN ICELAND (genetic structure of a special population and its consequences)
Fridriksson, Sturla Genetical Committee of Iceland, University of Iceland, Reykjavik, Iceland
AEC Contract AT(30-1) 3548; $70,000; for 4 years $261,900

355 GENETIC LOAD IN AMERICAN GENETIC ISOLATES (Amish, French-Canadian, Syrian Sephardic community of Brooklyn, Armenian community of Fresno, Calif., Hutterites)
McKusick, Victor A. Department of Medicine, The Johns Hopkins University, Baltimore, Md.
AEC Contract AT(30-1) 3697; $49,000; for 3 years $149,138

356 FUNDAMENTAL AND CLINICAL STUDIES IN HUMAN GENETICS (the population of Manitoba with its high concentration of Mennonites, Hutterites, French-Canadians and Indians is unique)
Uchida, Irene A. The Children's Hospital of Winnipeg, Winnipeg, Manitoba, Canada
DHEW Grant HD 00527-07; $65,213; for 7 years $406,223

357 MATING AND FERTILITY PATTERNS IN SCHIZOPHRENIC FAMILIES
Rainer, John D. Research Foundation for Mental Hygiene, Inc., Albany, N.Y.
DHEW Grant MH 03532-08; $36,564; . . .

358 SUBSISTENCE-LEVEL NUTRITION AND POPULATION DYNAMICS (in New Guinea)
Vayda, Andrew P. Box 20, Low Memorial Library, Columbia University, New York, N.Y.
DHEW Grant MH 12709-01; . . .; . . .

359 POPULATION, SPACE AND MENTAL HEALTH
Calhoun, John B. National Institute of Mental Health, NIH, Bethesda, Md.
DHEW In-house 38; $135,000; . . .

360 GENETIC MODELS FOR HOMINID EVOLUTION
Brues, Alice M. University of Colorado, Boulder, Colo.
NSF Grant GB 5169; $5,800 (est); for 4 years $23,200

361 EXCHANGE PROGRAM IN GENETICS AND MOLECULAR BIOLOGY BETWEEN THE UNIVERSITIES OF STANFORD AND PAVIA (including human population genetics)
Lederberg, Joshua School of Medicine, Stanford University, Palo Alto, Calif.
NSF Grant GB 7785; $53,000; . . .

SOCIO-ECONOMIC

362 POPULATION/ECONOMIC GROWTH ANALYSIS AND PRESENTATION (consequences of high rates of population growth in the less-developed areas of the world)
Enke, Stephen General Electric-TEMPO, Santa Barbara, Calif.
AID Contract AID/cad 1936; $112,000; . . .

363 LABOR FORCE ASSIMILATION OF MINORITIES (in the United States)
Hodge, Robert W. and Hauser, Philip M. Department of Sociology, University of Chicago, Chicago, Ill.
NSF GS 1397; $32,267(est); for 3 years $96,800

364 ECONOMIC-DEMOGRAPHIC INTERRELATIONS IN MODERNIZATION (in less-developed areas)
Easterlin, Richard A. University of Pennsylvania, Philadelphia, Pa.
NSF GS 1563; $28,767 (est); for 3 years $86,300

365 COMPARATIVE INTERNATIONAL STUDY OF LABOR FORCE GROWTH AND STRUCTURE
Durand, John D. and Miller, Ann R. Population Studies Center, University of Pennsylvania, Philadelphia, Pa.
NSF GS 1745; $65,750 (est); for 2 years $131,500

366 POPULATION GROWTH AND ECONOMIC DEVELOPMENT (less-developed countries, Nicaragua)
Newman, Peter K. The Johns Hopkins University, Baltimore, Md.
NSF GS 2076; $18,800; . . .

367 IMPACT OF POPULATION CHANGES UPON AGRICULTURE AND OTHER DEVELOPMENT PATTERNS IN TEXAS
Skrabanek, R.L. Agricultural Economics and Sociology Department, Texas A&M University, College Station, Tex.
USDA Other 1/ Tex 1268; $15,000; for 9 years $80,763

368 SOCIAL AND ECONOMIC SIGNIFICANCE OF RECENT POPULATION TRENDS IN NORTH CAROLINA
Hamilton, C. Horace Rural Sociology Department, North Carolina State University, Raleigh, N.C.
USDA Other 1/ NC 3037; $11,800; for 16 years $97,621

MIGRATION AND URBANIZATION

369 COMMUNITY ADJUSTMENT TO SOCIAL CHANGE IN THE NORTH CENTRAL REGION (includes analysis of fertility patterns)
Beegle, J. Allan Department of Sociology, Michigan State University, East Lansing, Mich.
USDA Other 1/ Mich 17; $14,400; for 21 years $167,391

370 CHANGES IN THE SOCIOECONOMIC STATUS OF FAMILIES IN LOW-INCOME, HIGH-MIGRATION RURAL AREAS (in Arkansas
Charlton, J.L. Agricultural Economics and Rural Sociology Department, University of Arkansas, Fayetteville, Ark.
USDA Other 1/ Ark 693; $15,500; . . .

371 PROBLEMS OF RURAL AREAS RESULTING FROM POPULATION CHANGES IN WISCONSIN
Marshall, D.G. Rural Sociology Department, University of Wisconsin, Madison, Wis.
USDA Other 1/ Wis 713; $10,898; for 16 years $166,753

372 POPULATION CHANGES RELATED TO AGRICULTURE AND RURAL LIFE IN KENTUCKY
Ford, Thomas R. Rural Sociology Department, University of Kentucky, Lexington, Ky.
USDA Other 1/ Ky 802; $2,400; for 21 years $154,477

373 MISSISSIPPI POPULATION TRENDS AND CHARACTERISTICS (causes and consequences of migration)
Stacey, William A. Mississippi State University of Applied Arts and Sciences, State College, Miss.
USDA Other 1/ Miss 1934; $18,000; for 20 years $156,246

374 POVERTY DIMENSIONS OF RURAL-URBAN MIGRATION
Bowles, Gladys K. and Beale, Calvin L. Economic Research Service, Department of Agriculture, Washington, D.C.
OEO Reimbursable agreement/USDA In-house; $37,500 (est) for 2 years $75,000

ENVIRONMENTAL

375 COOPERATIVE STUDY IN THE GEOGRAPHY OF POPULATION PRESSURE
Zelinsky, Wilbur The Pennsylvania State University, University Park, Pa.
NSF Grant GS 1326; $20,760; for 21 months $36,300

POPULATION POLICY AND IMPLEMENTATION

376 FEASIBILITY OF RESEARCH ON EFFECTS OF GOVERNMENT POPULATION POLICIES IN EASTERN EUROPE
David, Henry American Institutes for Research, Silver Spring, Md.
DHEW Contract NIH 69 2016; $10,000; . . .

RESEARCH ON OPERATIONAL ASPECTS OF POPULATION PROGRAMS

ORGANIZATION AND ADMINISTRATION OF FAMILY PLANNING PROGRAMS, INCLUDING DELIVERY OF SERVICES, SEX EDUCATION, COUNSELING, ETC.

377 UTILIZATION OF FAMILY PLANNING SERVICES (in less-developed countries)
Vincent, Clark E. Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, N.C.
AID Contract; $200,000 (proposed); for 3 years (proposed) $336,575 (proposed)

378 THE ROLE OF THE FAMILY PHYSICIAN IN FAMILY PLANNING (in England)
Cartwright, Ann Institute for Community Studies, London, England
DHEW Grant CH 00266; $20,000 (est); for 3 years $100,000

379 FAMILY PLANNING: CLINIC AND COST EVALUATION (the first of a larger series of studies to provide information to administrators about the relationships between resources devoted to family planning and the resulting outcomes)
Dean, Charles R. Planned Parenthood Federation of America, New York, N.Y.
DHEW Grant 168-1; $116,590; . . .

380 FAMILY PLANNING APPROACHES AMONG "HIGH-RISK" FEMALES
Vincent, Clark E. Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, N.C.
DHEW Grant 273; $66,800; . . .

381 PREGNANCY SPACING AND BIRTH OUTCOME -- FAMILY PLANNING (development of programs)
Udry, J. Richard University of North Carolina, Chapel Hill, N.C.
DHEW Grant PH 301(C-2); $265,322; for 2 years $331,066

382 OPERATIONAL RESEARCH IN MATERNITY CARE FOR ADOLESCENTS
Schlesinger, Edward R. Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pa.
DHEW Grant PH 1202; $105,504; . . .

383 ANALYSIS OF PROGRAMS FOR PREGNANT ADOLESCENTS
Dempsey, John J. The Johns Hopkins University School of Hygiene and Public Health, Baltimore, Md.
DHEW Grant PH 1600; $60,095; . . .

384 DEMONSTRATION PROGRAM TO INCREASE THE UTILIZATION OF POSTPARTUM AND FAMILY PLANNING SERVICES (usefulness of neighborhood workers in stimulating and assisting postpartum women to return to hospital, Harlem, NYC)
Cattell, Stuart Planned Parenthood of New York City, New York, N.Y.
DHEW Contract PH 110-146; $40,000 (est); for 2-1/4 years $85,300

385 DEMONSTRATION OF INCREASED UTILIZATION OF HEALTH DEPARTMENT FAMILY PLANNING SERVICES THROUGH EMPLOYMENT OF COMMUNITY WORKERS IN RURAL AND URBAN SETTINGS
Hatcher, Robert A. The Muscogee County Health Department, Columbus, Ga.
DHEW Contract PH 110-147; $40,000 (est); for 1-3/4 years $60,400

386 STUDY OF SEVERAL METHODOLOGIES FOR EXTENDING FAMILY PLANNING SERVICES TO RURAL POOR FAMILIES
Rogers, Berney M. Planned Parenthood League of Alabama, Birmingham, Ala.
DHEW Contract PH 110-220; $22,500 (est); for 2 years $45,000

387 EVALUATION OF A FAMILY PLANNING PROGRAM
Hughes, L.H. Clinical Investigation Center, Naval Hospital, Oakland, Calif.
DOD In-house; . . .; . . .

388 (A demographic study which will identify the most appropriate location for establishing new family planning programs)
Jaffe, Frederick S. Planned Parenthood/World Population, New York, N.Y.
OEO Contract B89-8224; $214,000; . . .

389 A HEALTH PROGRAM FOR ADOLESCENT POOR IN WAKE COUNTY, NORTH CAROLINA (a principal component would be sex education and family planning)
Arnold, Charles B. Carolina Population Center, University of North Carolina, Chapel Hill, N.C.
OEO Grant 8339; $81,127; . . .

390 NEW ORLEANS FAMILY PLANNING DEMONSTRATION PROGRAM (service to approx. 18,500 immediately postpartum and "high-risk" indigent women, between 14 and 44 years of age)
Beasley, Joseph D. Total Community Action, Inc.,
OEO Grant 8879; $415,000 (est); for 2 years $830,000

391 (A uniform family-planning patient data collection system developed jointly by OEO, DHEW and Planned Parenthood/World Population)
London, Gary Office of Economic Opportunity, Washington, D.C.
OEO In-house; $98,000; . . .

392 (An OEO developed evaluation system which will give current information about family planning programs)
London, Gary Office of Economic Opportunity, Washington, D.C.
OEO In-house; $10,000; . . .

MANPOWER RESOURCES AND TRAINING

393 SURVEY OF MANPOWER AND TRAINING REQUIREMENTS FOR BOTH DOMESTIC AND INTERNATIONAL POPULATION AND FAMILY PLANNING PROGRAMS
Tietze, Christopher, Associate Director, Biomedical Division, The Population Council, New York, N.Y.
DHEW Contract . . .; $20,000; . . .

394 TRAINING IN THE EPIDEMIOLOGY OF FAMILY PLANNING
Thompson, John D. Emory University, Atlanta, Ga.
DHEW Contract PH 21 2021; $21,538; . . .

395 THE DEVELOPMENT OF A TRAINING PROGRAM FOR WORKERS IN LOCAL FAMILY PLANNING PROJECTS
Ford, Thomas R. The University of Kentucky Research Foundation, Lexington, Ky.
OEO Contract 4541; $37,467; . . .

396 TRAINING OF YOUNG ADULTS IN FAMILY PLANNING AND EDUCATION (disadvanteged teenagers as field workers involved in sex education and family planning)
Pion, Ronald J. University of Washington School of Medicine, Seattle, Wash.
OEO Grant 8338; $81,430; . . .

FACILITIES

397 LABORATORIES FOR POPULATION STUDIES (overseas)
Linder, Forrest E. University of North Carolina, Chapel Hill, N.C.
AID Contract AID/csd 2161; $61,360; for 3 years $211,360

EVALUATION OF THE IMPACT OF POPULATION AND FAMILY PLANNING PROGRAMS

398 EVALUATION STUDIES OF INTERNATIONAL POSTPARTUM FAMILY PLANNING PROGRAM
Zatuchni, Gerald D. The Population Council, New York, N.Y.
AID Contract AID/csd 1565; $200,000 (est); for 3 years $600,000

399 RESEARCH ON FAMILY PLANNING-FAMILY PLANNING EVALUATION CENTER (help to less-developed areas)
Kessel, Elton Pathfinder Fund, Boston, Mass.
AID Contract AID/csd 1573; $644,500; for 4 years $1,483,078

400 TRAINING IN A SYSTEM OF EVALUATION - "RAPID FEEDBACK FOR FAMILY PLANNING IMPROVEMENT"
Bogue, Donald J. Community and Family Study Center, University of Chicago, Chicago, Ill.
AID Contract . . .; $175,000; for 3 years $262,635

401 STUDY OF PROGRAMS OF TEENAGE UNWED MOTHERS (impact of a hospital-based, comprehensive medical, social and educational program)
Jekel, James F. Yale University School of Medicine, New Haven, Conn.
DHEW Grant H 231 (cl); $113,315; for 2 years $222,316

402 LONGITUDINAL STUDIES IN HUMAN REPRODUCTION (includes the impact of family planning programs on fertility of a large unselected population group)
Rao, Sundar Christian Medical College, Vellore, India
DHEW P.L.-480 01-657-2 (NCHS); $38,641; for 5 years $177,457

403 COMPUTER MICROSIMULATION OF POPULATION CHANGE (impact of vital rates and family planning habits)
Horvitz, D.G. Research Triangle Institute, Research Triangle Park, N.C. and Sirken, M. National Center for Health Statistics, DHEW, Washington, D.C.
DHEW Contract PH 109-66-76 (NCHS); $100,000; for 3 years $300,000

404 A COMPUTERIZED PROJECTED ANALYSIS OF THE INDIAN HEALTH SERVICE FAMILY PLANNING PROGRAM
Portney, Gerald L. Health Program Systems Center, Tucson, Ariz.
DHEW . . . 6811; $3,000 for 4 months

INSTITUTIONAL PROGRAMS

405 Section 211(d) - Grant - INTERNATIONAL HEALTH AND POPULATION (institutional grant includes support for development of research competence in health planning population and family planning; Latin America)
Taylor, Carl The Johns Hopkins University School of Hygiene and Public Health, Baltimore, Md.
AID Grant AID/csd 1939; $360,000 (est); for 5 years $1,800,000

406 GRANT FOR POPULATION DYNAMICS UNIT (part of general support of population studies. Major purpose to develop competence in research, teaching and service with particular emphasis on interrelationships between population growth and socioeconomic development; India, Nigeria, Chile)
. . . The Johns Hopkins University, Baltimore, Md.
AID Grant AID/csd 841; $118,850 (est); for 4 years $475,300

407 Section 211(d) - Grant - DEVELOPING SPECIALIZED COMPETENCY IN POPULATION PLANNING OF DEVELOPING COUNTRIES (institutional grant, includes support for research directed toward relationships between population and health; Pakistan, Formosa, United States)
Corsa, Leslie Center for Population Planning, University of Michigan, Ann Arbor, Mich.
AID Grant AID/csd 2171; $250,000 (est); for 5 years $1,250,000

408 Section 211(d) - Grant - DEVELOPMENT OF MULTIDISCIPLINARY PROGRAM IN POPULATION AND FAMILY PLANNING (institutional grant includes support for research, biomedical, demographic, family planning program development, population policy)
Freymann, Moye W. Carolina Population Center, University of North Carolina, Chapel Hill, N.C.
AID Grant AID/csd 1940; $480,000 (est); for 5 years $2,400,000

409 DEMOGRAPHIC RESEARCH AND ANALYSIS AND POSTPARTUM PROGRAM (expand postpartum program in selected hospitals and countrywide)
Pease, Clifford The Population Council, New York, N.Y.
AID Grant - Contract AID/la - 286 & 550; $825,000; for 4 years $1,225,000

410 LATIN AMERICAN DEMOGRAPHIC CENTER (conduct demographic research and analysis including studies on fertility and abortion, provide technical advisory services to Latin American institutions and governments concerned with population surveys and studies, training in demography; Chile and Costa Rica)
Miro, Carmen A. Center for Latin American Demographic Studies, Santiago, Chile
AID Grant - Contract AID/la 200; $294,000; for 4 years $694,000

411 FERTILITY, FAMILY STRUCTURE AND FAMILY PLANNING (an integrated multidiscipline research program)
Beasley, Joseph D. Tulane University School of Public Health and Tropical Medicine, New Orleans, La.
DHEW Grant PH 40 (c4); $260,800; for 5 years $1,005,930

[1] Appropriation for general purpose statistics

[2] Funded wholly or in part with Federal Grant Funds at the State Agricultural Experiment Stations. Projects are funded by the Director of the Station following approval of the project proposal by the Cooperative State Research Service.

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APPENDIX A

INTERIM SCOPE AND DEFINITION OF RESEARCH RELEVANT TO HUMAN POPULATION PROBLEMS

Population research comprises studies of the nature, determinants, and consequences of population characteristics and dynamics and the development of basic data for such studies. Physical, biological, psychological, cultural, social, economic, and political factors may all be included in population studies. Operationally useful sub-divisions of the field are:

1. Systematic description of population characteristics and dynamics including fertility, mortality, and migration; of geographic distribution and socioeconomic composition; and of various correlates of differential demographic rates.
2. Studies of the biological, psychological and social determinants of population characteristics and dynamics, and of the effects of efforts to influence demographic rates.
3. Studies of the consequences of population characteristics and dynamics, at both personal and societal levels, with attention to technical, industrial, economic, political, psychosocial, and related factors.

Examples of sub-divisions above:

1. Systematic description:

   Collection of census and vital registration statistics;
   Development of new census and sample survey methods;
   Development of methods for storage, retrieval, and automated display of demographic data by various independent variables;
   Development of methods for analyzing components of demographic processes.

2. Studies of determinants:

   Studies in reproductive biology relevant to mechanisms of fertility, sterility, and methods of fertility control;
   Investigation of new contraceptive methods, and evaluation of their safety, efficacy, and acceptability to various populations;
   Studies of knowledge, attitudes, and practices related to fertility and fertility control methods, including induced abortion, among various socioeconomic and cultural groups;
   Studies of family structure and function as they may affect fertility and family planning;
   Studies to develop information upon which to formulate specific population policies and programs to implement them;
   Studies in the delivery of family planning services, including methods for evaluating the cost-effectiveness of such services;
   Studies of the factors influencing population policies developed under various circumstances.

3. Studies of consequences:

   Studies of relationships between population density, socioeconomic structure and environmental pollution;
   Studies of population change and economic development;
   Studies of the effects of family density on the psychological development of children;
   Studies of the effects of crowding on human happiness, well-being, and behavior;
   Studies of the economic and social effects of wide variations in fertility rates over time.

APPENDIX B

Classification for Federal Inventory

- I Research Projects
  - A. Reproductive Biology
    - 0. Multipurpose Research
    - 1. Endocrine Factors
      - a. Neuroendocrine factors
      - b. Gonadotropic hormones
      - c. Gonadal hormones
      - d. Other factors
    - 2. Prefertilization
      - a. Ovogenesis, gametogenesis and ovulation
      - b. Spermatogenesis and sperm transport
      - c. Oviductal, uterine and cervical functions
    - 3. Fertilization
    - 4. Nidation and implantation
    - 5. Other
  - B. Fertility Regulation, Techniques and Materials
    - 1. Development of techniques and materials
    - 2. Evaluation of techniques and materials
    - 3. Infertility
  - C. Description of Population Size, Distribution, Characteristics and Trends
    - 1. Data generation and analysis (including survey methodology)
    - 2. Methods of measurement and analysis
  - D. Determinants of Population Size, Distribution, Characteristics and Trends
    - 1. Family size, composition and roles

APPENDIX B
(continued)

2. Knowledge, attitudes and practices with regard to fertility
3. Biomedical and health
4. Socio-economic
5. Migration and urbanization
6. Environmental
7. Population policy and implementation

E. Consequences of Population Size, Distribution, Characteristics and Trends

1. Family size, composition and roles
2. Attitudes and practices with regard to fertility
3. Biomedical and health
4. Socio-economic
5. Migration and urbanization
6. Environmental
7. Population policy and implementation

F. Research on Operational Aspects of Population Programs

1. Organization and administration of family planning programs, including delivery of services, sex education, counseling, etc.
2. Manpower resources and training
3. Facilities
4. Evaluation of the Impact of Population and Family Planning Programs

G. Other

II. Institutional Programs

APPENDIX C

MEMORANDUM

TO : Federal Agencies Concerned February 14, 1969

FROM : Chairman, Ad Hoc Group on Population Research
Federal Council for Science and Technology

SUBJECT: Federal Inventory of Current Population Research Activities

The FCST Ad Hoc Group on Population Research is preparing a report of current population research relevant to human population problems being sponsored or conducted by Federal agencies. The attached questionnaire provides a uniform means of reporting fiscal year 1969 population research projects. However, a Science Information Exchange Notice of Research Project (NRP) or any other comparable format will be acceptable for reporting projects if it provides all of the information requested on the attached form. Data may be added to other formats, such as the NRP, to provide all the needed information.

Each agency is requested to submit a separate sheet with the required information for each project. Every research project which in your judgment has some relevance to human population problems should be reported. The NRP's retrieved for us by the SIE have been distributed to the agency concerned. Additional requests for NRP's from SIE should allow at least ten days and should include Fiscal Year 1968 projects in addition to 1969, since the processing of NRP's for FY 1969 is not completed. Agencies should carefully screen their research projects as many are not reported to SIE.

The attached definition of research relevant to human population problems indicates the extent of the field. Include projects with only a partial effort relating to population research, with a short statement to that effect. Large institutional grants should be reported as a single project. Both agencies involved in a reimbursable agreement are to report pertinent projects.

Please return the completed forms no later than March 12, 1969, to Mr. Rolf Versteeg; Executive Secretary of the Ad Hoc Group on Population Research, FCST; National Institutes of Health; Building 31, Room 4A-47, Bethesda, Maryland 20014. If any questions arise, or if additional inventory forms are needed, please feel free to call him on Code 14-65193.

Philip A. Corfman

Philip A. Corfman, M.D.

Attachments

APPENDIX C
(continued)

ACCESSION NO.

FCST AD HOC GROUP ON POPULATION RESEARCH INVENTORY

1. AGENCY PROJECT IDENTIFICATION NO.	**2. GRANT/CONTRACT NO.**
3. PERFORMING ORGANIZATION **(name and address)**	**4. RESPONSIBLE GOVERNMENT ORGANIZATION** **(awarding or contracting agency)**

5. PRINCIPAL INVESTIGATOR(S) (name, department, and official title)

6. TITLE OF PROJECT

7. SUMMARY OF PROJECT (250 words or less). Include description of problem and objective; method and technique; description of subjects and location where performed; and relevance to human population problems.

8. CIRCLE MEANS USED TO FUND PROJECT

a. grant b. contract c. in-house d. P.L. 480 e. reimbursable agreement

9. APPROXIMATE AMOUNT AND LENGTH OF TIME FUNDED

a. Amount funded for full current calendar year or fiscal year: $________
b. Total support: $__________
c. No. of years of support: ___

10. CHECK APPROPRIATE CATEGORY(IES) INTO WHICH RESEARCH PROJECT CAN BE CLASSIFIED

__a. Reproductive biology
__b. Birth control mechanisms and techniques and their evaluation
__c. Description of population characteristics
__d. Social and psychological determinants of population size and distribution
__e. Consequences of population characteristics and processes
__f. Research on operational aspects of population programs
__g. Other (specify)________________________________

11. NAME, ORGANIZATION, AND PHONE NUMBER OF INDIVIDUAL COMPLETING THIS FORM

APPENDIX C
(continued)

EXPLANATION OF ITEMS ON POPULATION RESEARCH INVENTORY

1. Agency Project Identification No.--The number assigned to the project by the funding agency.

2. Grant/Contract No.--The number assigned to the grant or contract by the funding agency, if different than the number in item 1.

3. Performing Organization--The full name and address of the organization conducting the research.

4. Responsible Government Organization--The full name and address of the agency and organizational component funding the research.

5. Principal Investigator(s)--The name, department, and official title of the principal investigators responsible for conducting the research.

6. Title of Project--The full title of the research project.

7. Summary of Project (250 words or less). A description of the problem and objective; method and technique; description of subjects and location where performed; and relevance of the project to human population problems.

8. Circle Means Used to Fund Project--Indicate whether the mechanism used to support the project is a. grant; b. contract; c. in-house (conducted on intramural basis by agency personnel); d. P.L. 480 funds; or e. reimbursable agreement between two Government agencies.

9. Approximate Amount and Length of Time Funded--a. The approximate amount funded for the full current calendar year or fiscal year; b. the amount of total support; and c. the number of years of support.

10. Check Appropriate Category or Categories Into Which Research Project Can Be Classified--

    a. Reproductive Biology includes:
    Endocrine factors (e.g. gonadotropic hormones); Prefertilization-development and maturation of ovum and sperm; Fertilization--union of sperm and ovum; Implantation of fertilized ovum.

    b. Birth Control Mechanisms and Techniques and Their Evaluation includes:
    Contraceptive Development and Fertility Control; Evaluation of Contraceptives; Abortion; Infertility (Sterility).

    c. Description of Population Characteristics includes:
    Data generation--censuses, sample surveys, and registration statistics; New methodology--census and sampling techniques, modeling and computer simulation; Data analysis--demographic characteristics (age, sex, residence, nuptiality, etc.).

APPENDIX C
(continued)

d. Social and Psychological Determinants of Population Size and Distribution includes:
Family shape and size (number, spacing and sex of children) and family function; Studies of knowledge, attitudes and practices related to family planning; Sex education; Sexual behavior; Migration and urbanization; Development of population policy and programs for policy implementation.

e. Consequences of Population Characteristics and Processes includes:
Biological--effects of population density on disease and other medical problems; Social and psychological--effects of population composition and density on changes in the family; human happiness, well-being and behavior; and social disorders (riots); Economic--(including technological, industrial)--utilization of natural resources, economic growth and development; Environmental factors including ecology--"pollutions" (air, water, aural, land) and conservation; Population policy consequences.

f. Research on Operational Aspects of Population Programs includes:
Organization and administration of family planning programs, including delivery of services; Studies on manpower resources--professional, paramedical and other; Facilities.

g. Specify other category.

11. Name, Organization, and Phone Number of Individual Completing This Form--The agency person who should be contacted regarding questions that may arise relating to information provided on this form.

APPENDIX D

Ongoing Population Research Supported by Federal Agencies, by Subject Area

April 30, 1969

(Thousands of dollars)

Subject area	Total, all agencies		
	Number of research projects	Number of projects with funds	Funds
GRAND TOTAL	411	376	$55,102
REPRODUCTIVE BIOLOGY	192	176	8,014
Multipurpose research	13	11	3,332
Endocrine factors, total	77	68	2,270
Neuroendocrine factors	15	13	352
Gonadotropic hormones	28	24	791
Gonadal hormones	29	27	1,078
Other factors	5	4	49
Prefertilization, total	61	57	1,360
Ovogenesis, gametogenesis and ovulation	19	18	378
Spermatogenesis and sperm transport	23	20	489
Oviductal, uterine and cervical functions	19	19	493
Fertilization	25	25	714
Nidation and implantation	10	10	219
Other	6	5	119
FERTILITY REGULATION, TECHNIQUES AND MATERIALS	57	53	4,664
Development of techniques and materials	8	8	330
Evaluation of techniques and materials	34	31	3,392
Infertility	15	14	942
DESCRIPTION OF POPULATION SIZE, DISTRIBUTION, CHARACTERISTICS AND TRENDS	36	34	32,984
Data generation and analysis	30	29	32,637
Methods of measurement and analysis	6	5	347

APPENDIX D
(continued)

Ongoing Population Research Supported by Federal Agencies, by Subject Area (continued)

April 30, 1969

(Thousands of dollars)

Subject area	Total, all agencies		
	Number of research projects	Number of projects with funds	Funds
DETERMINANTS OF POPULATION SIZE, DISTRIBUTION, CHARACTERISTICS AND TRENDS	64	54	2,384
Family size, composition and roles	13	8	149
Knowledge, attitudes and practices with regard to fertility	7	7	409
Biomedical and health	4	3	64
Socio-economic	16	13	844
Migration and urbanization	23	22	775
Environmental	—	—	—
Population policy and implementation	1	1	143
CONSEQUENCES OF POPULATION SIZE, DISTRIBUTION, CHARACTERISTICS AND TRENDS	27	25	1,216
Family size, composition and roles	—	—	—
Attitudes and practices with regard to fertility	2	1	4
Biomedical and health	10	9	798
Socio-economic	7	7	284
Migration and urbanization	6	6	99
Environmental	1	1	21
Population policy and implementation	1	1	10

APPENDIX D
(continued)

Ongoing Population Research Supported by Federal Agencies, by Subject Area (continued)

April 30, 1969

(Thousands of dollars)

Subject area	Total, all agencies		
	Number of research projects	Number of projects with funds	Funds
RESEARCH ON OPERATIONAL ASPECTS OF POPULATION PROGRAMS	28	27	3,251
Organization and administration of family planning programs [a]	16	15	1,755
Manpower resources and training	4	4	160
Facilities	1	1	61
Evaluation of impact of population and family planning programs	7	7	1,275
INSTITUTIONAL PROGRAMS	7	7	2,589
GRAND TOTAL	411	376	$55,102

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[a] Includes research on delivery of services, sex education, counseling, etc.